

**H.R. 1937, “NATIONAL STRATEGIC  
AND CRITICAL MINERALS PRO-  
DUCTION ACT OF 2015”**

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**LEGISLATIVE HEARING**

BEFORE THE

SUBCOMMITTEE ON ENERGY AND  
MINERAL RESOURCES

OF THE

COMMITTEE ON NATURAL RESOURCES  
U.S. HOUSE OF REPRESENTATIVES

ONE HUNDRED FOURTEENTH CONGRESS

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**LEGISLATIVE HEARING ON H.R. 1937, TO  
REQUIRE THE SECRETARY OF THE  
INTERIOR AND THE SECRETARY OF AGRICULTURE TO MORE EFFICIENTLY DEVELOP  
DOMESTIC SOURCES OF THE MINERALS  
AND MINERAL MATERIALS OF STRATEGIC  
AND CRITICAL IMPORTANCE TO UNITED  
STATES ECONOMIC AND NATIONAL SECURITY AND MANUFACTURING COMPETITIVENESS,  
“NATIONAL STRATEGIC AND CRITICAL MINERALS PRODUCTION ACT OF 2015”**

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**Thursday, June 25, 2015  
U.S. House of Representatives  
Subcommittee on Energy and Mineral Resources  
Committee on Natural Resources  
Washington, DC**

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The subcommittee met, pursuant to notice, at 11:09 a.m., in room 1334, Longworth House Office Building, Hon. Doug Lamborn [Chairman of the Subcommittee] presiding.

Present: Representatives Lamborn, Labrador, Cook, Zinke, Hardy; and Lowenthal.

Mr. LAMBORN. The Subcommittee on Energy and Mineral Resources will come to order. We are meeting today to hear testimony on H.R. 1937, introduced by Representative Amodei, the “National Strategic and Critical Minerals Production Act of 2015.”

Under Committee Rule 4(f), any oral opening statements at hearings are limited to the Chairman and Ranking Member and the Vice Chairman and a designee of the Ranking Member. This will allow us to hear from our witnesses sooner, and help Members keep to their schedules. Therefore, I ask unanimous consent that all other Members’ opening statements be made part of the hearing record if they are submitted to the Subcommittee clerk by 5:00 p.m. today.

[No response.]

Mr. LAMBORN. Hearing no objection, so ordered. I now recognize myself for my opening statement.

**STATEMENT OF THE HON. DOUG LAMBORN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF COLORADO**

Mr. LAMBORN. Today the subcommittee is meeting to discuss H.R. 1937, the National Strategic and Critical Minerals Production Act of 2015, that was introduced on Wednesday, April 22, by Congressman Mark Amodei, and 37 original co-sponsors. The bill currently has 45 co-sponsors, including myself.

The legislation requires the Secretary of the Interior and the Secretary of Agriculture to more efficiently develop domestic sources of the minerals and mineral materials of strategic and critical importance to the United States' economic and national security and manufacturing competitiveness.

Earlier versions of this bill passed the House in both the 112th and 113th Congresses by wide margins. H.R. 4402 passed on July 12, 2012 by a bipartisan vote of 256 yeas to 160 nays, and H.R. 761 passed on September 18, 2013, with bipartisan support of 246 to 178, and as part of H.R. 4, the "Jobs for America Act," on September 18, 2014, with bipartisan support of 253 to 163.

The legislation addresses a significant problem hindering domestic production of solid mineral resources, which is the prolonged permitting timelines of 7 to 10 years to obtain the necessary permits to build a mine. In some cases that we will hear about today, the time required to obtain a permit can be almost 20 years. In comparison, mine projects in Canada and Australia can obtain the necessary permits in 2 to 3 years.

Critics of the legislation have raised concerns about the broad definition of "strategic and critical minerals" in the bill. The definition was written broadly to capture the diversity of the Nation's mineral endowment. This includes rare earth minerals that were featured in a 60 Minutes special in March of this year.

Last year, at an oversight hearing on supply and demand of critical minerals, the Minority witness, Dr. Eric Peterson, with the Center for Advanced Energy Studies at the Idaho National Laboratory, was asked whether lead was a critical mineral. He replied, "Criticality is in the eye of the beholder . . . If it is needed for your process, then yes, it is critical."

Now let's take a look at copper, a mineral commodity the United States produces and has significant reserves and resources of, yet we still import 31 percent of what our society needs. It is also a mineral that is crucial for renewable energy and alternative fueled vehicles.

[Slide]

Mr. LAMBORN. And if you take a look at Slide 1, you will see the information behind saying that. You can see from this slide that a hybrid vehicle requires twice as much copper as a vehicle that runs on gasoline. At 165 pounds of copper per vehicle, the electric car requires almost three times as much.

[Slide]

Mr. LAMBORN. Demand for copper is projected to outstrip supply sometime after 2017 with a deficit increasing to 10 million tons by 2028. And you can see that on Slide 2.

[Slide]

Mr. LAMBORN. The third slide illustrates the problem we are here to discuss today: long permitting timelines. Currently, the average timeline from discovery to production is 20 years for large copper deposits. Worldwide, there are not enough large copper prospects in the pipeline to address the supply shortfall that is projected for the near future.

One might ask how long permitting timelines affect the economics of a given deposit and a company's ability to maximize the quantity of the resource they are able to recover.

A study commissioned by the National Mining Association released this morning found that a typical mining project in the United States loses more than one-third of its value as a result of the delays in obtaining the various permits required for mine construction and production. The cost and increased risk associated with these delays can cut the expected value of a mine in half and, in some cases, make the project uneconomic. This drives investors to fund overseas projects, even in places like the Democratic Republic of Congo—as you know, a very unstable country.

Mr. Amodei's legislation goes a long way to address this problem, and is a first step in addressing the Nation's troublesome dependence on foreign sources of mineral resources.

I want to thank the witnesses for being here, and look forward to hearing from them today.

[The prepared statement of Mr. Lamborn follows:]

PREPARED STATEMENT OF THE HON. DOUG LAMBORN, CHAIRMAN, SUBCOMMITTEE ON  
ENERGY AND MINERAL RESOURCES

Today, the subcommittee is meeting to discuss H.R. 1937, the "National Strategic and Critical Minerals Production Act of 2015" that was introduced on Wednesday, April 22, 2015, by Congressman Mark Amodei and 37 original co-sponsors. The bill currently has 45 co-sponsors, including myself.

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The legislation addresses a significant problem hindering domestic production of solid mineral resources, which is the prolonged permitting timelines of 7 to 10 years to obtain the necessary permits to build a mine. In some cases—that we will hear about today—the time required to obtain a permit can be almost 20 years.

In comparison, mine projects in Canada and Australia can obtain the necessary permits in 2 to 3 years.

Critics of the legislation have raised concerns about the broad definition of 'strategic and critical minerals' in the bill. The definition was written broadly to capture the diversity of the Nation's mineral endowment. This includes the 'rare earth minerals' that were featured in a 60 Minutes special in March of this year.

Last year at an oversight hearing on supply and demand of critical minerals, the minority witness, Dr. Eric S. Peterson with the Center for Advanced Energy Studies at the Idaho National Laboratory, was asked whether lead was a critical mineral replied. He replied, "Criticality is in the eye of the beholder . . . if it's needed for your process then yes it is critical. . ."

Now let's take a look at copper, a mineral commodity the United States produces and has significant reserves and resources of, yet we still import 31 percent of what our society needs. It's also a mineral that is crucial for renewable energy and alternative fueled vehicles (Slide 1).

You can see from this slide that a hybrid vehicle requires twice as much copper as a vehicle that runs on gasoline. At 165 lbs. of copper per vehicle, the electric car requires almost three times as much.

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One might ask how long permitting timelines affect the economics of a given deposit and a company's ability to maximize the quantity of the resource they're able to recover.

A study commissioned by the National Mining Association released this morning found that a typical mining project in the United States loses more than one-third of its value as a result of the delays in obtaining the various permits required for mine construction and production.

The cost and increased risk associated with these delays can cut the expected value of a mine in half and in some cases make the project uneconomic. This drives investors to fund overseas projects even in places like the Democratic Republic of Congo.

Mr. Amodei's legislation goes a long way to address this problem and is a first step in addressing the Nation's troublesome dependence on foreign sources of mineral resources.

I want to thank the witnesses for being here and look forward to hearing from them today.

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Mr. LAMBORN. In a moment I am going to recognize the Ranking Member for an opening statement. In the meantime, I am going to hand the gavel over to one of the fine members of our committee, Colonel Paul Cook of California, and at this point recognize the Ranking Member for his statement.

**STATEMENT OF THE HON. ALAN S. LOWENTHAL, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA**

Dr. LOWENTHAL. Thank you, Mr. Chair. Before I begin, I ask unanimous consent to introduce into the record a letter from many, many groups on behalf of thousands of mining-impacted communities.

[No response.]

Mr. COOK [presiding]. Without objection, so ordered.

Dr. LOWENTHAL. Thank you, Mr. Chairman, for holding this hearing. Critical minerals are indeed vital to many high-tech U.S. industries, and I support the goal that the United States have a steady supply of these important materials. We are currently very much dependent on Chinese imports for many of these critical minerals, maybe not as much as a few years ago, but any situation in which one source is relied upon too heavily creates an inherent supply risk.

I think there is a lot of opportunity for us to work together on this issue to evaluate and secure the Nation's critical mineral needs. However, I believe that H.R. 1937 misses the mark on this opportunity. Despite its title, the bill has little to do with critical minerals. Instead, it aims to simply speed the access that mining companies will have to royalty-free taxpayer resources.

The Department of Energy and the National Academy of Sciences, among many others, have defined critical minerals as elements that are vital to U.S. industry and that also have a high risk of supply disruption. These organizations concluded that rare earth minerals, platinum group metals, and lithium, are critical minerals, based upon their industrial importance and our dependence on foreign sources.

But H.R. 1937 ignores this well-established definition. Instead, it offers one of its own, which is so broad that it even encompasses sand and gravel. I am not saying that these minerals are unimportant. They are certainly essential in construction, manufacturing, and building infrastructure, but they aren't critical because there



is no risk of a shortage. We import less than half of a percentage point of all our sand and gravel needs. We have a diverse domestic supply. There is no risk of being held hostage by some foreign dictator for our sand and gravel needs. And there is no evidence that our construction industries are suffering from an acute shortage of rocks.

Yet, under the guise of critical need, this bill would exempt sand, gravel, and all other hard rock mines from full review under the National Environmental Policy Act (NEPA), putting our public lands at risk and eliminating important opportunities for public comment. Further, the bill would overturn the principle of multiple land use management, by requiring that resource extraction take priority over all other uses of our public lands.

These changes over-ride our bedrock environmental laws, leaving in their place thin assurances that environmental impacts will be mitigated while resource development is maximized. The reason for this, the Majority argues, is that review under NEPA is too time consuming, and unnecessarily delays mine permitting. They try to claim that the Administration is on their side in this argument by pointing to an executive order aimed at expediting the permitting of critical infrastructure projects. Yet this order was written to work within the guidelines of NEPA to improve coordination, not to strip away the entire process. We cannot throw away the NEPA process simply because it takes too long.

What really adds insult to injury in this bill is the fact that once these hard rock mines are permitted, taxpayers don't see a dime for the resources extracted from their lands. Under the Mining Act of 1872, there are no royalties charged on the resources extracted, no matter how valuable they may be. Over \$300 billion of gold, silver, copper, and other valuable minerals have been taken from public lands without one dime in royalties returning to the American taxpayer.

This 1872 law, passed when Ulysses S. Grant was the President, which is still in effect, was designed primarily to attract settlers to the West. I have late-breaking news: I am from California, and I can assure you the West has been settled. It is now safe to update this law.

That is why I have introduced the Hardrock Mining Reform and Reclamation Act with Ranking Member Grijalva and other colleagues from this committee. Mining reform should focus on bringing revenues to taxpayers, and protecting the American public from environmental damage and the cost of reclaiming waste mine land.

By weakening environmental review, H.R. 1937 is designed to make this situation even worse for mining in this country, which has already left a legacy of environmental cleanup that is costing American taxpayers billions of dollars.

I cannot support any mining legislation that would not seek to improve existing law, never mind supporting one that makes conditions worse.

Thank you, Mr. Chair, and I yield back my time.

[The prepared statement of Dr. Lowenthal follows:]

PREPARED STATEMENT OF THE HON. ALAN S. LOWENTHAL, RANKING MEMBER,  
SUBCOMMITTEE ON ENERGY AND MINERAL RESOURCES

Thank you, Mr. Chairman, and thank you for holding this hearing.

Critical minerals are indeed vital to many high-tech U.S. industries, and I support the goal of ensuring that the United States has a steady supply of these important materials. We are currently very dependent on Chinese imports for many of these critical minerals—not as much today as a few years ago—but any situation where one source is still relied upon too heavily creates an inherent supply risk. So I do think that there is a lot of opportunity to work together on this issue, and for us to find agreement on ways to evaluate and secure the Nation's critical mineral needs.

I believe that H.R. 1937, however, misses the mark on this opportunity. Despite its title, the bill has very little to do with critical minerals. Instead, it aims to simply speed *royalty-free* access for mining companies to the taxpayer's natural resources.

The Department of Energy and the National Academy of Sciences, among many others, have defined critical minerals as elements that are vital to U.S. industry AND that have a high risk of a supply disruption. These organizations concluded that rare earth elements, platinum group metals, and lithium are critical minerals based on their industrial importance and our dependence on foreign sources. But H.R. 1937 ignores this well-established definition and instead offers one of its own, which is so broad that it even encompasses sand and gravel.

Not that these materials are unimportant—they are certainly essential in construction, manufacturing, and building infrastructure—but they aren't *critical* because there is *no risk* of a shortage. We import less than half of a percentage point of *all* of our sand and gravel needs. We have a diverse and abundant domestic supply. You may not have seen any platinum in your back yard as a kid (and if you did, you are rich now), but I imagine we've all seen sand and gravel . . . everywhere.

Thus, there's no risk of being held hostage by some foreign dictator for our Nation's sand and gravel needs. And again, there's no evidence that our construction industries are suffering from an acute shortage of rocks.

Yet, under the guise of "critical need," this bill would exempt sand, gravel, and all other hard rock mines from full review under the National Environmental Policy Act (or NEPA), putting our public lands at risk and eliminating important opportunities for transparency and public comment. Further, the bill would overturn the principle of multiple use land management by requiring that resource extraction take *priority* over all other important uses of our public lands.

These changes would over-ride our bedrock environmental laws, leaving in their place thin assurances that environmental impacts will be mitigated while resource development is maximized.

The reason for this, the Majority argues, is that review under NEPA is too time consuming and unnecessarily delays mine permitting. They try to claim that the Administration is on their side in this argument by pointing to an executive order aimed at expediting the permitting of critical infrastructure projects. Yet this order was written to work *within* the guidelines of NEPA to improve coordination, not strip the entire process away. We cannot throw away the NEPA process simply because it takes too long.

What really adds insult to injury about this bill is the fact that, once these hard rock mines are permitted, taxpayers don't see a dime for the resources extracted from their lands. Under the Mining Law of 1872, there are *no royalties charged* on the resources extracted, no matter how valuable they may be. Over \$300 billion of gold, silver, copper, and other valuable minerals have been taken from public lands without *one dime* in royalties returning to the American taxpayer.

This outdated 1872 Law, which is still in effect, was designed to attract settlers to the West.

I'm from California. I can assure you, *the West is settled*.

It's safe to update this law now.

This is why I introduced the Hardrock Mining Reform and Reclamation Act with Ranking Member Grijalva and other colleagues from this committee. Mining reform should focus on bringing revenues to taxpayers, and protecting the American people from environmental damage and the costs of reclaiming waste mine land.

Unfortunately, by weakening environmental review, H.R. 1937 is designed to make the situation even worse for mining in this country, which has already left a legacy of environmental cleanup that is costing American taxpayers billions of dol-

lars. I cannot support mining legislation that does not try to fix existing law, never mind one that would make conditions worse.

I yield back the balance of my time.

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Mr. COOK. Thank you. I will now recognize the author of H.R. 1937, Representative Amodei, for a brief statement about his bill.

**STATEMENT OF THE HON. MARK E. AMODEI, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEVADA**

Mr. AMODEI. Thank you, Mr. Chairman, Mr. Ranking Member. For your record, Mark Amodei, representing Nevada's original congressional district.

What H.R. 1937 seeks to do is provide some predictability and stability to the permitting process. There is nothing in H.R. 1937 which requires Federal land managers to approve an application to mine on public land. That is a very important point, that it doesn't require a yes, it requires a specific timeline in which to go through the NEPA process.

Now, let's talk about the timeline for the NEPA process. In the bill, it is 30 months. That is longer than you serve after you are elected by your constituents to come here, by one-and-a-half times. That is much longer than it takes you to get elected to serve here. That is a period of time that, in previous testimony on this bill, when it was pointed out that the Administration indicated, "We're doing real good, and it only requires us 17 months to process a typical land use application," you say, "Well, then, what is your objection to more than doubling that time frame?"

There is also an extension provision in H.R. 1937 which says, "If you need more time, and everybody agrees to that, then you can extend that process for an additional 6 months." By one-sixth you can extend that, so that if there are issues that need to be worked out—in what sense, committee members, in a NEPA sense—that you have one-sixth more time to go do that.

Now, why are we talking about time at all in the context of permitting mining on Federal lands? Because there is a de facto track record that is very clearly demonstrable, that in this industry, which requires the investment of money to develop these projects, there has been a very effective de facto culture that says, "If we can just delay, delay, delay, those investors will go elsewhere." And, Mr. Chairman and committee members, they are going elsewhere.

And you sit there and say, "Well, what is the damage in that?" To refer to the environmental track record of the minerals extraction industry in my neck of the woods is a historical statement. The stories on reclamation and responsible operation for minerals extraction, in terms of restorations of land that is mined and also historical ones that, because these people are there, they picked up those watershed restorations, those property restorations, are indeed excellent.

I can tell you that the Nevada Department of Environmental Protection, who supervises these things directly, has an excellent record in modern times, over the last three decades, of making

folks do the right thing by the environment. There is nothing in this legislation that says, "Let's ignore NEPA, let's trash the environment." It says, "Listen. If somebody files an application for minerals extraction on public property, here is the amount of time you've got. So plan accordingly. Bureau of Land Management, set up your schedule. Tell people that if they want to participate in the process, here are their opportunities." And there you go.

Now, if you get to the end of that process and that land manager says, "I think the permit should be denied," this does nothing to change that discretion and that compliance with NEPA. It merely says you cannot sit there and delay the thing until the investors or the prospect dies of old age—my words, nobody else's. But it is an important thing, in terms of—we just want a limit on how long you study this thing to death.

I know that is a novel concept in the organization we are all in, since we are not famous for swift action on much of anything. But let's change for a minute to too broad. I find it interesting to say, "Well, it is too broad, and it needs to be this." I think there was a statement made earlier that is indeed the truth—it is in the eyes of the beholder. I think back to the Loma Prieta earthquake in California, when we had freeways that all of a sudden were no longer freeways. So you needed to get those back up and operating again. Well, guess what? Sand and gravel supply was critical at that point in time. I am not saying there should be a blanket everything on it, if there is an amendment that says you have to do some special showing under the context to get into this. But I can tell you sand and gravel supply, when you are trying to replace a freeway system in a major metropolitan area in California, is a critical thing, in the eyes of those beholders.

I will also indicate that when you talk about the royalties, you have totally ignored the fact that this is an industry which pays one of the highest average wages, pays number one in my state in state and local taxes, and also the income taxes on those wages are significant. So, if you want to just judge it on straight up, if after 30 months or before 30 months the land manager thinks that the permit ought to be denied, then they should deny it. But we shouldn't have to find out that the time frame for deciding is whatever it happens to be on a certain case without any limits.

Thank you, Mr. Chairman, for your indulgence, and I yield back.

Mr. COOK. Thank you very much. We are playing Beat the Clock today. So, right now, while we have the author, does anyone—Ranking Member, other Members—have any brief questions?

Dr. LOWENTHAL. I don't believe so.

Mr. COOK. OK. Anyone else?

[No response.]

Mr. COOK. Thank you. I know you have other commitments, we are all running around. Chicken Little would be proud of you. Thank you, Mr. Amodei.

Dr. LOWENTHAL. Chicken Little?

Mr. COOK. I am Chicken Little today, the sky is falling.

At this point, I would like to invite the witnesses to come forward, be seated at the witness table. Mr. Labrador, I see that you are there. Would you like to briefly introduce the witness from Idaho, once he is seated?

Mr. LABRADOR. Thank you, Mr. Chairman. I am pleased to introduce Luke Russell. Luke serves as a Vice President of External Affairs for Hecla Mining Company. He has over 30 years of experience in mine permitting in the United States and abroad. He has a Master of Science in Mine Land Rehabilitation from Montana State University, and a Bachelor of Science in Landscape Architecture from the University of Wisconsin, Madison. Hecla Mining Company has a rich history in Idaho, and in my district, and will be celebrating its 125th anniversary next year.

Thank you for being here, Luke, and we look forward to hearing your testimony.

Mr. COOK. Thank you. So I don't get confused, the way it is seated right now, I am going to introduce everyone that is there.

We have Mr. Mark Fellows, we have Mr. Sam Kalen—if I pronounced that correctly, Mr. Jeffery Green, and Mr. Luke Russell.

Let me remind the witnesses that, under our Committee Rules, they must limit their testimony to 5 minutes, and then you will hear this little tap, tap, tapping. But your entire statement will appear in the hearing record.

When you begin, the lights on the witness table will turn green. After 4 minutes, the yellow light will come on. Your time will have expired when the red light comes on. If you are color-blind, we are all in trouble.

I will ask you to please complete your statement. I will also allow the entire panel to testify before questioning the witnesses.

So, right now we will start off with Mr. Fellows. Thank you for being here.

**STATEMENT OF MARK FELLOWS, SNL METALS & MINING, METALS CONSULTING, ON BEHALF OF THE NATIONAL MINING ASSOCIATION, LONDON, UNITED KINGDOM**

Mr. FELLOWS. Thank you very much, Mr. Chairman, the committee, for having me here to speak today.

SNL Metals & Mining is a subsidiary of SNL Financial, which is a U.S.-based data, news, and consulting business focused on the financial, real estate, media, energy, and mining sectors. In early 2015, the National Mining Association commissioned SNL to carry out a study aiming to quantify the impact of permitting delays on the economic value of mining projects. This study is published today, and I would like to submit it to the committee for the record.

We embarked upon this assignment in the hope of creating a piece of unique research which would demonstrate empirically the destruction of value which results from unnecessary, extended delays to project development. What we found is that, on average, a typical mining project loses over one-third of its economic value as a result of protracted delays in receiving the numerous permits needed to begin production. The longer the wait, the more the value of the investment is eroded, even to the extent that the project ultimately becomes an unviable investment. Even a large, high-grade deposit will remain unmined if the balance between cost, revenue, and timetable are not favorable.

This inefficient permitting system has partially blocked the pipeline along which projects advance to become productive mines. We found that although mining companies continue to invest in explo-

ration, a greater proportion of projects are stuck in the earlier phases of development, despite evidence that a healthy mining sector is an important component of the economy. This has left the United States dependent on active mines whose remaining life is declining or leaving the country reliant on mineral resources from abroad.

It takes, on average, 7 to 10 years to secure the permits needed to commence operations in the United States. To put that into perspective, in Canada and Australia, countries with similarly stringent environmental regulations, the average permitting period is 2 years. In the United States, the requirement for multiple permits and multiple agency involvement is the norm, as is the involvement of other stakeholders, including indigenous groups, the general public, and non-governmental organizations.

In Canada and Australia, the timeline for government to respond is more clearly outlined, the specification of lead agencies is clearer, and the responsibility for preparing a stringent environmental review lies with the mining company, not the government.

Our study examines several real-world examples of mines where delays have eroded value. The Rosemont Copper project in Arizona continues in its attempt to secure permits, 5 years after the originally planned start date of 2010. Over this period, the value of the project has fallen from \$18 billion to \$15 billion, despite much higher copper prices.

The Kensington gold mine in Alaska was plagued by permitting issues during development. It commenced production in 2010, 17 years after the originally planned start date of 1993. By the time the mine opened, the capital cost of building it had increased by 49 percent, and the company had reduced planned gold production by nearly one-third, to focus mining operations on the most profitable part of the deposit only.

Earlier research conducted by SNL in 2014 established why a healthy mining sector is important for the U.S. economy. There is a mismatch between mineral supply and demand in the United States. It ranks as only the seventh largest mining nation, globally, although it is the world's largest manufacturer.

Another key finding of our previous research was that manufacturing activity is returning to the United States, driven by manufacturers' desire to reduce the risks in their supply chains, and consumers' increasing concerns regarding corporate accountability. Consumers want to see evidence of sustainable production processes, use of recycled materials, and sound environmental practices. Made in USA gives them that assurance.

Our third key conclusion was that, relative to their global peers, U.S. miners are highly efficient, often exemplifying best practices with regards to productivity, sustainability, and safety. The United States remains highly prospective, from a geological point of view, with abundant, diverse mineral resources. A duplicative, inefficient permitting system presents a significant barrier to American companies' access to minerals.

Thank you very much for your time.

[The prepared statement of Mr. Fellows follows:]

PREPARED STATEMENT OF MARK FELLOWS, DIRECTOR OF CONSULTING,  
SNL METALS & MINING

I would like to start by thanking the committee for inviting me to speak here today.

SNL Metals & Mining is a subsidiary of SNL Financial, a U.S.-based data, news and consulting business focused on the financial, real estate, media, energy and mining sectors.

In early 2015, the National Mining Association commissioned SNL Metals & Mining to carry out a study aiming to quantify the impact of permitting delays on the economic value of mining projects. We embarked upon this assignment in the hope of creating a piece of unique research, which would demonstrate empirically the destruction of value which results from unnecessary, extended delays to project development.

What we found is that on average, a typical mining project loses over one-third of its economic value as a result of protracted delays in receiving the numerous permits needed to begin production. The longer the wait, the more the value of the investment is eroded, even to the extent that the project ultimately becomes an unviable investment. Even a large high-grade deposit will remain unmined if the balance between costs, revenue and timetable are not favorable.

This inefficient permitting system has partially blocked the pipeline along which projects advance to become productive mines. We found that although mining companies continue to invest in exploration, an ever-greater proportion of projects is stuck in the earlier phases of development, despite evidence that a healthy mining sector is an important component of the economy. This has left the United States dependent on active mines whose remaining life is declining or on mineral resources from abroad.

It takes on average 7 to 10 years to secure the permits needed to commence operations in the United States. To put that into perspective, in Canada and Australia, countries with similarly stringent environmental regulations, the average permitting period is 2 years. In the United States, the requirement for multiple permits and multiple agency involvement is the norm, as is the involvement of other stakeholders, including local indigenous groups, the general public and nongovernmental organizations. In Canada and Australia the timeline for the government to respond is more clearly outlined, the specification of lead agencies is clearer, and the responsibility for preparing a stringent environmental review lies with the mining company, not the government.

Our study examines several real-world examples of mines where delays have eroded value.

The Rosemont Copper project in Arizona continues in its attempts to secure permits, 5 years after the originally planned start date of 2010. Over this period the value of the project has fallen from \$18 billion to \$15 billion despite much higher copper prices.

The Kensington gold mine in Alaska was plagued by permitting issues during development. It commenced production in 2010, nearly 20 years after the originally planned start date of 1993. By the time the mine opened, the capital cost of building the mine had increased by 49 percent, and the company had reduced planned gold production by nearly one-third, to focus mining operations on the most profitable part of the deposit only.

Earlier research conducted by SNL in 2014 established why a healthy mining sector is important for the U.S. economy: there is a mismatch between mineral supply and demand in the United States; it ranks as only the seventh largest mining nation, although it is the world's largest manufacturer. Another key finding of our previous research was that manufacturing activity is returning to the United States, driven by manufacturers' desire to reduce the risks in their supply chains and consumers' increasing concerns regarding corporate accountability. Consumers want to see evidence of sustainable production processes, use of recycled materials and sound environmental practices.

Our third key conclusion was that relative to their global peers, U.S. miners are highly efficient, often exemplifying best practices with regard to productivity, sustainability and safety. The United States remains highly prospective, from a geological point of view, with abundant, diverse mineral resources of high quality. A duplicative, inefficient permitting system presents a significant barrier to American companies' access to minerals.

Mr. COOK. Thank you very much. Right on schedule. The Chair now recognizes Mr. Russell to testify.

**STATEMENT OF LUKE RUSSELL, VICE PRESIDENT, EXTERNAL AFFAIRS, HECLA MINING COMPANY, COEUR D'ALENE, IDAHO**

Mr. RUSSELL. Good morning, Mr. Chairman, Ranking Member Lowenthal, other members of the committee. As Representative Labrador said, I am Luke Russell with Hecla Mining Company. Hecla is the oldest precious metals mining company in North America. We currently have U.S. projects in Alaska, Idaho, Colorado, Nevada, and Montana.

My experience includes more than 30 years in mine permitting in western states, as well as internationally. In my international experience, mine projects are commonly permitted in 2 to 3 years. This is not due to lower international standards. Far from it. The countries I have worked in generally have requirements that are at least as protective as those in the United States. What these countries do have are predictable permitting processes. If the regulatory professionals in Canada and Australia can get the job done in 2 to 3 years, so can we, here in the United States.

To be clear, valid concerns about environmental protection need to be fully considered and addressed. At the same time, frivolous matters should not serve as an excuse to trap mining projects in limbo of unpredictable and endless review. We should not confuse the length of the process with the rigor of the review.

I would like to share a couple of examples of some lengthy permitting processes I have been involved with.

Before working with Hecla, I worked with Coeur Mining, which owns the Kensington mine in southeast Alaska. Permitting of that mine started in 1988. Over the next 17 years, it went through three permitting efforts to gain Federal and state approvals, only to be followed by 5 years of litigation. It ultimately went to the U.S. Supreme Court, which ruled in favor of the agency's original decision to approve the project. Unfortunately, during the litigation period more than 100 workers were idle. The permitting and litigation delay did not only cost the company a significant amount of money, it also impacted the community of Juneau, due to uncertainty and loss of high-paying jobs during the construction period.

Another example. Hecla recently acquired the Rock Creek project in northwestern Montana. Rock Creek is the largest undeveloped silver-copper deposit in the United States. The first permit application for that project was submitted in the late 1980s. While over a decade in the process, an EIS was finally issued in 2001, followed by appeals and litigation which continued through 2012, or over 11 years. In response to a court decision in 2010, the Forest Service initiated a supplemental Environmental Impact Statement. Today, some 5 years later, a draft Supplemental Impact Statement has not yet been developed for public comment.

H.R. 1937 will significantly improve the permitting process. Similar to other legislative efforts of commerce, like the 2012 MAP-21, Moving Ahead for Progress in the 21st Century Act and the 2014 Water Resources Reform and Development Act, the bill seeks to streamline the U.S. permitting process specifically for strategic and critical minerals, without compromising the process.



The bill will coordinate the actions of Federal agencies to eliminate duplication, outline the responsibilities of the lead permitting agency, address unending legal challenges to mine projects by requiring civil actions to be filed within set time frames, and establish clear and predictable permitting time frames. And when I say streamline permitting, the bill does not advocate skipping of steps, but combining steps and doing things in parallel, rather than in sequence. This is how effective permitting managers have completed the process in a shorter time frame.

I have seen U.S. projects that have completed the NEPA process within the 30-month period proposed in this legislation. Some recent examples: the BLM completed an environmental assessment for an expansion of the Rochester mine in Nevada in 16 months; an EIS for the Pan mine in less than 2 years; and an EIS for the Hycroft mine in less than 20 months.

In establishing a firm timeline to complete the NEPA process, the bill does not ask the permitting agencies to do something that has not already been demonstrated to be possible in the United States, as well as major mineral-producing countries of Canada, Australia, and Chile. H.R. 1937 is legislation that will encourage and facilitate the domestic production of strategic and critical minerals without lessening the robust environmental standards of the United States.

On behalf of Hecla Mining, I thank you for this opportunity to testify, and appreciate your consideration of these comments.

[The prepared statement of Mr. Russell follows:]

PREPARED STATEMENT OF LUKE RUSSELL, V.P. EXTERNAL AFFAIRS,  
HECLA MINING COMPANY

INTRODUCTION

Chairman Lamborn, Ranking Member Lowenthal and members of the committee, my name is Luke Russell and I am V.P. of External Affairs for Hecla Mining Company. Hecla Mining Company (NYSE:HL) is the oldest precious metals mining company in North America and was established in 1891 in northern Idaho's Silver Valley. We are the United States' largest primary silver producer and third largest producer of lead and zinc. We currently have U.S. operations and projects in Alaska, Idaho, Colorado and Nevada and just last week completed the acquisition of the Rock Creek project in Montana.

My experience includes more than 30 years in mine permitting, mine reclamation and environmental compliance in several western states including: Idaho, Alaska, Nevada, South Dakota, and now Montana. In addition I have permitted mines internationally in Chile, Argentina, New Zealand, Mexico and Bolivia. I have served as Trustee and past-President of the American Exploration & Mining Association. In addition to my industry experience I also have worked inside government serving as Remediation Manager with the Idaho Department of Environmental Quality.

In my experience, permitting a mine in the United States is by far the most challenging. This is not due to a lower international standard of environmental requirements—the countries listed above have environmental standards that are at least as protective as the U.S. standards. What these other countries have are permitting processes that are much more clearly defined and that have the expectation that a decision will be made within a given time frame. The U.S. process is fraught with duplication, inefficiencies, a lack of reasonable time frames/sideboards, a lack of coordination among Federal agencies and multiple, never-ending litigation. It is by far the most arduous and tortuous process in the world. While the rule of law generally favors the Americas, this long and uncertain process is no incentive to invest here.

Time is money and unnecessary delays and duplication in the permitting process strands capital and discourages long-term investments in producing domestic minerals. Compare our exceedingly long permitting time with Chile, Canada and Australia where the average permitting time is between 2 and 3 years while incorporating essentially the same environmental and engineering standards as the

United States. If land managers and environmental regulatory professionals in these countries can get the job done in 2 to 3 years, so can the United States.

Demand for minerals is also increasing across the spectrum of modern technology from electronics and electrical systems applications, aerospace and defense, to the energy industry. For example, a modern computer chip contains more than half of the elements in the periodic table and even though they may be present in very small amounts, each is essential to function and performance.<sup>1</sup> My daughters would say their phone is strategic and critical to their way of life, and 40 key minerals in their smartphones includes tantalum, tungsten, copper, iron, nickel, aluminum, tin, silver, chromium, gold, and palladium and nine separate rare earth elements.

Many of the uses of critical and strategic minerals overlap and converge in the field of renewable energy. Wind turbines would not be possible without mined materials. Just one turbine contains 335 tons of steel and almost 5 tons of copper. Similarly, solar panels cannot be made without mined materials like steel, copper, silicon, aluminum and the unique metal that we at Hecla produce, silver.

Silver has the highest electrical and thermal conductivity of all metals, and is the most reflective. These physical properties make it a highly valued industrial metal, especially when used in solar cells. Silver paste is actually a primary ingredient in 90 percent of the most common solar panels. Overall, the solar industry uses about 5 percent of the world's annual silver supply, or an estimated 52.4 million ounces. However, as demand for solar increases, especially in China, the demand for silver used in solar energy could double. As a result it is estimated the solar industry may use 100 million ounces of silver this year.<sup>2</sup>

The United States has become increasingly dependent on foreign sources of strategic and critical minerals and this vulnerability has serious national defense and economic consequences. According to the U.S. Geological Survey, the United States is more than 50 percent import reliant for 43 critical minerals (the United States is roughly 40 percent import reliant on crude oil) and 100 percent import reliant for 19 critical and strategic minerals despite having the third largest source of mineral wealth in the world. Our growing dependence on imports leaves many key domestic industries unnecessarily vulnerable to disruptions from extended, complex and fragile supply chains. The length of time it takes to secure permits in the United States is a key reason behind this dependency on foreign sources.

#### PERMITTING DELAY

The United States has one of the longest permitting processes in the world for mining projects. A 2014 Behre Dolbear report ranking the 25 leading mining countries noted that permitting delays are the most significant risks to mining projects in the United States with an average 7- to 10-year period required before mine development can begin. Consequently, the United States lags in attracting job-creating exploration dollars. The Metals Economics Group reports that the United States, despite having significant mineral resources, attracts only 7 percent of total worldwide exploration dollars. In the mid-1990s, the United States attracted approximately 20 percent of worldwide exploration dollars. Permitting delays and security of tenure issues are the major reasons why the U.S. share has dropped by two-thirds.

To be clear, valid concerns about environmental protection need to be fully considered and addressed. At the same time, frivolous matters should not serve as an excuse to trap mining projects in a limbo of duplicative, unpredictable and endless review without a decision point. We should not confuse the length of the process with the rigor of review.

I would like to share a few examples of what I think are lengthy permitting processes I have been involved with.

#### *Greens Creek—Alaska*

Hecla is one of the largest private employers in southeast Alaska, and our Greens Creek mine is responsible for approximately 415 permanent, full-time jobs. The mine near Juneau, Alaska started production in 1989 producing almost 200 million ounces of silver so far and will produce more than 100 million additional ounces over its remaining life. Over 7.8 million ounces of silver were produced last year and is projected to produce a similar amount this year. The mine has provided over  $\frac{3}{4}$  billion dollars in economic contributions to the southeast Alaska economy in just over the last 5 years alone. It is one of the world's largest silver mines and produces gold, lead and zinc in important quantities as well. The mine has had an exemplary

<sup>1</sup> T.E. Graedel, E.M. Harper, N.T. Nassar, and Barbara K. Reck: On the Materials Basis of Modern Society, School of Forestry and Environmental Studies, Center for Industrial Ecology, Yale University, October 2013.

<sup>2</sup> <http://www.usatoday.com/story/money/markets/2014/08/29/no-silver-no-solar/14756397/>.

environmental record and is located, in part, in a national monument area devoted to the largest concentration of brown bears in the world.

With this history and a plan to only expand the existing tailings facility, one would expect the receipt of the permits to be done quickly. In 2010 Hecla submitted an application and the U.S. Forest Service (USFS) commenced preparation of an environmental impact statement (EIS). Understanding how long permitting can take the application was submitted 5 years before construction had to begin to avoid shutting down the mine due to lack of tailings capacity. Interestingly, the NEPA process could not begin until approval was received from the Secretary of Agriculture's office in Washington, DC. This step had not been required in any of the previous permitting efforts at the mine.

The final EIS was issued in the third quarter of 2013 and following appeals the ROD was finalized in December 2013. However, all the other required state and Federal permits, chiefly the 404 permit from the Corps of Engineers, were not received until the first part of 2015 or about 5 years after original permit submission. The final EIS selected alternative approved only an 18 acre expansion of the 62 acre existing facility even though the company had proposed a 150 acre expansion. This decision allows only about 9–10 more years of mining. As the current reserves extend the mine life beyond this time, this chosen alternative will lead to additional time consuming, costly and unnecessary bureaucratic processes. Thus, the company is being forced to already begin the planning process for its next permitting effort because of the long permitting lead times required.

#### *Kensington Mine—Alaska*

Prior to working with Hecla, I worked with Coeur Mining which owns the nearby Kensington mine in southeast Alaska. Permitting of the Kensington mine started in 1988. In July of 1992, the USFS approved a Plan of Operations for the Kensington Gold Project—a 4-year permitting effort. The plan called for underground mining and surface facility construction for ore processing (via cyanidation) and other ancillary operations. The mine did not receive all Federal permits due to regulatory process delay and did not proceed.

In 1994, the company submitted a revised plan of operation designed to reduce the environmental footprint and address water quality concerns and in August 1997, the USFS approved a revised Plan of Operations—an additional 3 years permitting effort. The plan still called for underground mining but changes to the tailings management system were proposed. While the required permits were obtained the price of gold had decreased and so the project economics were no longer favorable to commence construction.

In November 2001, the company submitted a plan amendment to the USFS for its approved 1998 Plan of Operations. The amendment again modified the proposed tailings management system. In December of 2004, the USFS finalized the Supplemental Environmental Impact Statement and issued the Record of Decision for the modified Kensington project.

In the first half of 2005, the other state and Federal permits were obtained and construction commenced—another 4-year permitting effort. Permit appeals and litigation followed. The administrative appeal to the USFS was denied, which then lead to a lawsuit filed with the District Court. Plaintiffs lost in District Court but an appeal to the 9th Circuit led to a stay of construction in 2006 and more than 100 workers were idled. The 9th Circuit then overturned the District Court. The case was then appealed to the U.S. Supreme Court which heard the case in early 2009. In June of that year, the Court ruled 6–3 in favor of the agencies and the company was able to resume construction. The first gold production occurred in 2010.

The permitting process for the Kensington project lasted nearly 16 years. The final 4-year leg of the permitting process was then followed by a 4-year period of litigation. The permitting and litigation delay came at significant cost to the company and the community of Juneau due to uncertainty in the project and temporary loss of high paying jobs during the construction period.

#### *Rock Creek—Montana*

Hecla recently acquired the Rock Creek project in northwestern Montana. Rock Creek is the largest undeveloped copper-silver project in the United States containing an estimated 220 million ounces of silver and over 2 billion pounds of copper. The project has a long permitting history dating back to the first application for a mining permit in 1987. Following a change in ownership of the project the Forest Service and Montana Department of Environmental Quality (DEQ) jointly completed a FEIS and Record of Decision (ROD) in 2001. This was followed by several appeals and litigation. The Fish and Wildlife Service (FWS) withdrew its Biological Opinion (BO) in 2002 to settle a lawsuit causing the USFS to withdraw

its part of the 2001 ROD. A new BO and ROD were issued in 2003. Once again numerous appeals and litigation were filed, leading to a new BO in 2006 which was further supplemented in 2007. Additional litigation followed and in 2010 the U.S. District Court confirmed the Biological Opinion but remanded the 2003 FEIS back on to the Forest Service on very narrow NEPA procedural issues for further action. Litigants appealed the BO decision to the Ninth Circuit Court which in 2012 confirmed the agencies decision.

Following the 2010 District Court decision the Kootenai National Forest commenced a Supplemental Environmental Impact Statement (SEIS) review to respond to the U.S. District Court Decision on the very narrow remanded NEPA issues. Now, after 5 years the Forest Service has still not yet released a draft SEIS for public comment.

#### WHY THE PERMITTING PROCESS IS SO SLOW

In my experience, permitting delays are frequently caused by ineffective agency project management, unnecessary bureaucratic red tape, inefficient workforce issues within the Bureau of Land Management (BLM) and U.S. Forest Service (USFS), and multiple appeals and litigation.

Poor project management skills by Federal agencies: the management of the multi-faceted aspects of NEPA for a mining project requires good project management skills. The ability to develop a work breakdown structure, schedule assigned responsibility and hold people accountable for deliverables. A successful project has consistency in management—a good project manager, who stays with the project.

Training on minerals and mining and NEPA process: many Federal agency resource professionals are experienced in grazing, timber and recreation, but are not informed on minerals and mining development. Additional training on the NEPA process and the role of lead agency is critical to improving the Federal permitting process. The lead agency must lead; in many cases I have seen it defer to cooperating agencies or other stakeholder interests, instead of taking charge and leading the permitting process. H.R. 1937 addresses this inefficiency without compromising environmental standards.

*Fear of Litigation:* We often hear BLM and USFS say they must make these documents legally “bullet proof.” This makes all issues potentially significant which is counter to NEPA which clearly envisioned the lead agency following scoping would focus on those truly significant issues that could affect the environment (40 CFR 1502.2).

*Litigation:* Many mining projects “die from a 1,000 cuts” through multiple appeals and litigation. The Rock Creek example illustrates how litigation can delay and string out project development. Anti-mining groups have sued multiple times and continue to litigate on ESA and NEPA issues in separate litigation efforts. This legal process grinds down both the agencies that must defend their permitting decisions and the company’s in hopes they will simply walk away from the project. While the company has millions of dollars and hundreds of high-paying jobs at risk, project opponents risk nothing with a chance to profit significantly by recovering their attorney fees through the Equal Access to Justice Act (EAJA). H.R. 1937 addresses this inequity by providing that all issues must be litigated in one lawsuit.

*Inefficient personnel system:* Unfortunately, too often there are changes in management personnel during the project, changes in District Rangers, Forest Supervisors, BLM District Managers and with the Corps of Engineers all which leads to re-education, re-evaluations and loss of time in the permitting process. In addition, simply staffing a NEPA process can be difficult. For example, the Rare Element Resources project in Wyoming required over 11 months to simply get an EIS project manager assigned to the project. Clearly a more efficient personnel system can be implemented to get people in place to manage projects. This factor is compounded by the fact that in the USFS performance reviews, promotions and raises do not include an employees’ performance in managing mineral projects.

*Federal Register Notice Delay:* Substantial delays result from a BLM Instruction Memorandum (IM) issued on December 23, 2009 (IM 2010-043) requiring *all* Federal Register Notices be sent to the BLM Washington Office for review and approval prior to publication in the Federal Register. This IM also implemented a 12- to 14-step review and approval process that is taking approximately 4 months per Notice, prior to publication. Notices are required for intent to start the NEPA process and public scoping, for a draft EIS and the final EIS. This Federal Register notice process can add almost a year to the permitting timeline for a simple administrative notice filing. Prior to 2000, these routine notices were processed and published in 30 to 45 days.

## HOW H.R. 1937 CAN HELP IMPROVE A BROKEN SYSTEM

H.R. 1937 is well thought-out legislation that will encourage and facilitate the domestic production of strategic and critical minerals without lessening the robust environmental standards of the United States. H.R. 1937 will address key issues behind the delay in the permitting process:

- Includes domestic mines that provide strategic and critical minerals within the scope of “infrastructure projects” as described in Executive Order 13604, the goal of which is to significantly reduce the review and permitting time frames for infrastructure projects;

Specifically the objective of this executive Order includes:

*Reviews and approvals of infrastructure projects can be delayed due to many factors beyond the control of the Federal Government, such as poor project design, incomplete applications, uncertain funding, or multiple reviews and approvals by state, local, tribal, or other jurisdictions. Given these factors, it is critical that executive departments and agencies (agencies) take all steps within their authority, consistent with available resources, to execute Federal permitting and review processes with maximum efficiency and effectiveness, ensuring the health, safety, and security of communities and the environment while supporting vital economic growth.*

*To achieve that objective, our Federal permitting and review processes must provide a transparent, consistent, and predictable path for both project sponsors and affected communities. They must ensure that agencies set and adhere to timelines and schedules for completion of reviews, set clear permitting performance goals, and track progress against those goals. They must encourage early collaboration among agencies, project sponsors, and affected stakeholders in order to incorporate and address their interests and minimize delays.<sup>3</sup>*

- Addresses permitting delays for strategic and critical mineral development by coordinating the actions of Federal agencies to eliminate duplication, bureaucratic inefficiency and decade-long delays without compromising environmental protection; and,
- Outlines the responsibilities of the lead permitting agency to ensure efficient permitting such as establishing binding time frames, coordinating with other agencies, relying on existing data, establishing any required financial assurance and allowing case-by-case adoption of the functional equivalence doctrine in lieu of separate NEPA analysis;

We encourage the Federal agencies to consider the Alaska Large Mine permitting coordinator approach as an example of a state process that works to help streamline the permitting timeline while maintaining the integrity of the process. This provides a coordinated, efficient approach to mine permitting and oversight that benefits from multi-disciplinary expertise of team members to enable the public, agencies and applicant to view the project as whole. The large mine permitting coordinator participates in the NEPA scoping process, participates in public meeting and public hearings, and approves baseline data collection plans.

Attachment 1 illustrates how the large mine permitting approach in Alaska was designed to ensure the processes are done in parallel rather than in sequence.<sup>4</sup> As permitting requirements continue to evolve, this process ensures all steps are completed but in a parallel manner that streamlines the process and reduces duplication and inconsistency. When we say streamline permitting, it is these sort of administrative approaches that can greatly reduce the permitting time frame with no impact on the quality of the evaluation. We are not advocating skipping of steps, but combining steps and doing things in parallel rather than in sequence. This is how effective NEPA project managers have completed the process in a shorter time frame.

- Establishes clear timelines to complete the permitting process.

<sup>3</sup> <https://www.whitehouse.gov/the-press-office/2012/03/22/executive-order-improving-performance-federal-permitting-and-review-infr>.

<sup>4</sup> [http://mric.jogmec.go.jp/kouenkai\\_index/2010/briefing\\_100721\\_3.pdf](http://mric.jogmec.go.jp/kouenkai_index/2010/briefing_100721_3.pdf).

While my experience includes examples of very long permitting timelines, I have also been involved with, and seen, projects that have completed the NEPA process within the 30-month period proposed in this legislation. Some recent examples:

- The BLM completed an Environmental Assessment for an expansion for the Rochester mine in Nevada in about 16 months. Key issues included ground-water quality and evaluation of a pit lake or pit backfill,
- The USFS completed an Environmental Assessment for the Mt. Hamilton mine in Nevada in about 17 months. Key issues included geochemistry, reclamation and Sage Grouse,
- The BLM completed an EIS for the Pan mine in Nevada in less than 2 years. Key issues were Sage Grouse and groundwater, and,
- The BLM completed an EIS for the Hycroft mine in Nevada in less than 20 months. Key issues included quality and quantity, visual effects and cultural resource.

In establishing a firm timeline to complete the NEPA process the bill does not ask the permitting agencies to do something that has not already been demonstrated as achievable in the United States as well as major mineral producing countries Canada, Australia and Chile.

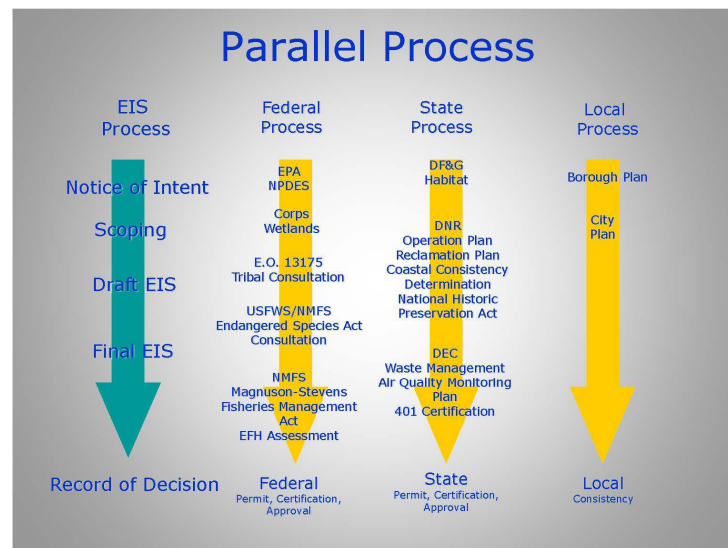
- Addresses the Department of Interior's bureaucratic Federal Register review process for NEPA notices by delegating processing of such notices back to state offices; and,
- Aims to reduce delays posed by litigation over permitting decisions by requiring challenges to be filed within 60 days of the final agency action in a single challenge and eliminates the ability of project opponents to recover attorney fees through EAJA.

#### CONCLUSION

H.R. 1937 is legislation that will encourage and facilitate the domestic production of strategic and critical minerals without lessening the robust environmental standards of the United States. On behalf of Hecla Mining Company we appreciate the opportunity to testify here today and thank you for consideration of these comments.

#### ATTACHMENT 1

#### Alaska Large Mine Environmental Permitting and Oversight Process July 21, 2010—JOGMEC—Tokyo, Japan Slide #31



Mr. COOK. Thank you very much. The Chair now recognizes Mr. Kalen to testify.

**STATEMENT OF SAM KALEN, WINSTON S. HOWARD DISTINGUISHED PROFESSOR OF LAW, CO-DIRECTOR, CENTER FOR LAW AND ENERGY RESOURCES IN THE ROCKIES, UNIVERSITY OF WYOMING COLLEGE OF LAW, LARAMIE, WYOMING**

Mr. KALEN. Thank you, Mr. Chairman, members of the committee, thank you for the opportunity to appear before you today. As a former attorney at the Interior Department, a private practitioner, and presently as a law professor, I am particularly interested in the management of our Nation's public lands. Today my testimony focuses on three principal issues.

First, while I appreciate the important objective of promoting economic and national security interests and believe that most will agree that mere delay in process for process' sake is undesirable, careful management of our public lands is critical. H.R. 1937, rather than reforming our public land management system to ensure that they remain vibrant and sustainable, could do the converse. For example, its approach toward NEPA, or by mandating as a priority in Section 103 if the mineral resource development should be maximized. Indeed, that mandate alone would threaten to disrupt long-settled principles of Federal land management under, for instance, the Federal Land Policy and Management Act.

Second, the bill's functional equivalency approach toward the National Environmental Policy Act is conceptually and pragmatically problematic. Conceptually, at the outset, the bill sets forth what it identifies as six critical aspects of NEPA, and then charges the appropriate agency with deciding whether those aspects have been satisfied. How that might be accomplished, though, is uncertain. Courts have struggled for quite some time with the idea of NEPA functional equivalency. And, indeed, they have concluded in only a few rare instances, primarily involving the Environmental Protection Agency, that the standard has been satisfied. With that said, EPA though is different, as a consequence of its mission and its programs. And indeed, EPA, through Section 309 of the Clean Air Act, as well as the Council on Environmental Quality, have a role in NEPA's implementation that seemingly could be diminished under the alternative process prescribed by H.R. 1937.

Pragmatically, though, moreover, it would be quite difficult for the appropriate agency to make that determination up front, whether in any particular case, or whether there is a sufficiently robust alternative process. The agency is charged with making that determination within 90 days of an application, provide an explanation for its decision, include the facts from a record, then show how those facts from the record justify the agency's decision. Yet, at that juncture in the process, unless the agency has rendered a generic decision on a programmatic basis, there will not be any adequate record for the decisionmaker to even use.

As such, I would suspect that the litigation risk would be too great for many to accept. Consequently, it would appear that the bill would likely trigger Section 102(e), and the ability of a project proponent to mandate entering into a schedule. But that standardized schedule and approach is too optimistic, because it requires too

much knowledge before the process has begun, may be unwieldy in practice, and might create litigation risk if it were enforced.

Finally, many other aspects of H.R. 1937 would likely become problematic for the agencies to implement, and then for the judiciary to review. Take for instance the approach toward what constitutes strategic and critical minerals. The bill provides no definition, only a process that allows the agency to determine whether any “mineral,” a term that is not as self-defined as necessary to achieve one of the four listed objectives.

I would add here that the hearing memo correctly notes that the process would allow for including even such things as sand and gravel. Yet neither, under Federal law nor most state laws, say sand and gravel are considered a “mineral.” With that said, however, the bill does not address how the agency will make that type of determination. On a case-by-case basis? On a programmatic basis? At what intervals, or what type of public input, if any? And if the determination is made, what then?

If, for instance, the determination is rendered in a particular mineral exploration or mine permit application, then it might be an issue that could surface in any possible lawsuit, in which case a court might invalidate the decision and render the particular use of the H.R. 1937 process invalid, and force the agency and the applicant back to the drawing board. If the determination is made generically, outside any particular project, will that determination be reviewable separately and independent of the mineral exploration or mine permit? If so, then on what basis will it be reviewed by the courts? And with what administrative record? For these reasons alone, if I were advising a client, I might even suggest that it would not be worth the litigation risk to proceed under the H.R. 1937 process.

Again, I thank you, Mr. Chairman and the committee, for allowing me to testify. And I would be glad to answer any questions that you might have.

[The prepared statement of Mr. Kalen follows:]

PREPARED STATEMENT OF SAM KALEN, WINSTON S. HOWARD DISTINGUISHED  
PROFESSOR OF LAW, UNIVERSITY OF WYOMING COLLEGE OF LAW

Thank you, Mr. Chairman, for the opportunity to appear before the Subcommittee on Energy and Mineral Resources of the House Committee on Natural Resources. My name is Sam Kalen, and I am a Professor of Law at the University of Wyoming College of Law. I am honored to accept this committee’s invitation to testify on H.R. 1937, the National Strategic and Critical Minerals Production Act of 2015.

For most of my career, I have focused on the administration of our Nation’s public lands, whether as an attorney in private practice, as an attorney in the Solicitor’s Office of the Department of the Interior, or more recently as a law professor. Because of this background, I am acutely interested in proposals that address whether and how mineral activity occurs on public lands.

My testimony addresses five principal issues associated with H.R. 1937. At the outset, H.R. 1937 has the laudable goal of promoting economic and national security and interests, and meaningful efforts to explore reforming aspects of public land management—such as efforts to examine the 1872 Mining Law—are worthy endeavors. Indeed, Congress in the Mining and Minerals Policy Act of 1970 employs language about “foster[ing] and encourage[ing] certain private enterprise[s].” 30 U.S.C. §21a. So too, in the policy statement for the Federal Land Policy Management Act, Congress noted the “Nation’s need for domestic sources of minerals.” 43 U.S.C. §1701(a)(12). Yet H.R. 1937’s attempt to expand upon these notions is neither workable in administration nor desirable; indeed, it would most likely be quite difficult for agencies to implement aspects of H.R. 1937, and the bill, moreover, risks allowing mining activities on the public lands to proceed without ensuring that



those activities are thoroughly vetted by the public and reviewed by the appropriate agency or agencies for their possible adverse effects.

But most importantly whether, where, and how mining occurs is critical, in order to ensure that the public lands are managed in a sustainable and environmentally sound manner that protects these lands for the future, prevents harming areas of “critical environmental concern,” and avoids “unnecessary or undue degradation.” 17 U.S.C. § 1732(b). Mining, after all, can require the use of important and potentially scarce water resources, can contaminate water resources, affect wildlife, and cause considerable damage to the landscape. *See generally* National Research Council, *Hardrock Mining on Federal Lands* 27 (1999) (Potential Environmental Impacts of Hardrock Mining); Env’tl Protection Agency, EPA’s National Hardrock Mining Framework (Sept. 1997); *see, e.g., South Fork Band Council of Western Shoshone of Nevada v. U.S. Dep’t of the Interior*, 588 F.3d 718 (9th Cir. 2009) (discussing BLM’s analysis of groundwater impacts for gold mine); *Idaho Conservation League v. United States*, 2012 WL 3758161 (D. Idaho 2012) (discussing Forest Service’s treatment of groundwater impacts from proposed project). Historically, after all, the Bureau of Land Management reports that 60 percent of all hazardous waste sites on public lands have resulted from “commercial uses”—and roughly 50 percent of those from “[l]andfills, mines and mill sites, airstrips, and oil and gas” activities. BLM, *Public Land Statistics* 2014 241 (May 2015). *See, e.g.,* Gordon M. Bakken, *The Mining Law of 1872: Past, Politics, and Prospects* 82–105 (2008) (one historical account). The Department, moreover, has been engaged in litigation over cleaning up public lands, often seeking recovery (when a potentially responsible party is still available) in the millions of dollars. *E.g., U.S. v. Newmont USA, Ltd.*, 2008 WL 4621566 (E.D. Wash. Oct. 17, 2008).<sup>1</sup> Not surprisingly, therefore, the urgency of reforming the program for hardrock mining and particularly protecting the public lands from environmental damage has been widely recognized, at least since the 1970s. *See generally* Council on Environmental Quality: 8th Annual Report 89 (1977) (noting then President’s request to draft reform legislation); U.S. General Accounting Office, GAO/RCED–89–72, *The Mining Law of 1872 Needs Revision* (March 1989); John D. Leshy, *The Mining Law: A Study in Perpetual Motion* (1987); Charles F. Wilkinson, *Crossing the Next Meridian: Land, Water, and the Future of the American West* 57–8 (1992). Indeed, when digesting the Public Land Law Review Commission’s report, almost exactly 45 years ago to the day, the *New York Times* reported how “all mineral interests known to be of value should be reserved with exploration and development discretionary in the Federal Government and a uniform policy adopted relative to all reserved mineral interests.” Digest of the Commission’s Report and Recommendations on Public Land Use, *New York Times*, June 24, 1970.

*Second*, H.R. 1937’s approach toward the National Environmental Policy Act of 1969 (NEPA), 42 U.S.C. §§ 4321–4347, while understandably seeking to reduce unnecessary duplication and avoiding unnecessary delay, presents several issues warranting careful consideration. Rather than strengthening the ability to protect the Nation’s public lands, it could do the converse. When it passed NEPA, Congress established an environmental charter that ensured that proposed major Federal actions “significantly affecting the quality of the human environment” would be examined through a broad lens; and, while the Supreme Court has since held that the act imposes only procedural not substantive obligations on Federal agencies, it provides a now well-trodden procedural path for ensuring that agencies take a hard look at the environmental consequences of the proposed action, seek public input, and render informed decisions. To the extent, therefore, that H.R. 1937 would diminish NEPA’s role and function in assisting the agencies’ decisionmaking process for whether, when, and how activities, such as mining, occur on the public lands is problematic. Indeed, in one instance where the court rejected a challenge to an expansion of mining operations, the court nevertheless emphasized the importance of the NEPA process: “The NEPA process worked here as it was designed to work. Plaintiffs, the public, and other state and Federal agencies had the opportunity to

<sup>1</sup>Historically, various regulatory gaps contributed to fewer controls over operations on the public lands, with statutes such as the Resource Conservation and Recovery Act including provisions exempting certain wastes from hazardous waste regulation. *See* 42 U.S.C. § 6921 *et seq.*, § 6921(b)(3)(C). At least until recently, the Clean Water Act too had limited ability to affect operations that principally impacted groundwater and involved simply withdrawals. *See Great Basin Mine Watch v. Hankins*, 456 F.3d 955 (9th Cir. 2006) (withdrawals); *cf. Klamath Siskiyou Wildlands Center v. U.S. Forest Serv.* (E.D. Cal. 2014) (noting that withdrawal examined in NEPA document). *See generally* U.S. Congress, Office of Technology Assessment, *Managing Industrial Solid Wastes from Manufacturing, Mining, Oil and Gas Protection, and Utility Coal Combustion*—Background Paper, OTA-BP–0–82 (GPO Feb. 1992) (examining management of solid wastes).

comment on the mine expansion. As a result of those comments and the agencies' response, the ultimate action is more protective of the environment than it would have been without the process." *Greater Yellowstone Coalition v. Larson*, 641 F. Supp.2d 1120, 1151 (D. Idaho 2009), *aff'd* 628 F.3d 1143 (9th Cir. 2011). Indeed, the National Research Council had earlier noted how it believed "that the NEPA process and its various state equivalents provide the most useful and efficient framework for evaluating proposed mining activities." National Research Council, *supra* at 110.

*Third*, section 102(b)(1) of H.R. 1937 is likely to create significant problems by employing a functional equivalence standard for satisfying NEPA. This section seemingly allows a waiver of NEPA when the appropriate Federal agency determines that any Federal agency's process or any accompanying state process examines six factors drawn from the NEPA process. This presumably adopts the concept from some NEPA cases sanctioning avoiding NEPA when the agency's process is functionally equivalent—albeit it is not clear that these six factors, moreover, parallel what an adequate NEPA document would explore. The functional equivalency idea first surfaced with respect to certain actions by the Environmental Protection Agency (EPA), some of which were incorporated into legislation.<sup>2</sup> For these courts, EPA's special role as an environmental agency presumably influenced their decision, but even so there often was hesitation surrounding the "functional equivalence" notion. *E.g.*, *Merrill v. Thomas*, 807 F.2d 776, 781 (9th Cir. 1986). Courts, therefore, generally declined to extend the concept beyond EPA, and instead constructed other ideas such as lack of discretion, "displacement," or congressional intent involving decisions designed specifically to protect environmental values.<sup>3</sup> And EPA, acting pursuant to specific congressional charges, operates quite differently than land managers who must decide how best to manage, given the array of considerations, our Nation's public lands. While many of these decisions may well be problematic, they nonetheless collectively underscore the importance of *applying NEPA* to decisions by agencies other than the EPA or that are not specifically designed by Congress as intended to protect environmental values. Indeed, when Congress considered NEPA, a concern by some legislators was whether the NEPA process could be entrusted to agencies such as Federal land managers whose mission was not necessarily perceived of at the time as limited to environmental protection. Yet Congress chose to trust the agencies, but in doing so relied on NEPA (and invested the Council on Environmental Quality [CEQ] with certain responsibilities) and shortly thereafter bolstered its decision by adopting section 309 of the Clean Air Act affording EPA a role in reviewing environmental impact statements (EIS)—a function that H.R. 1937 would obviate (along with possibly the role of CEQ). Consequently, H.R. 1937's provision for allowing land managing agencies to determine whether another process is functionally equivalent with the NEPA process is troubling and ignores Congress' choices in NEPA as well as the judiciary's struggle with functional equivalence.

*Fourth*, sections 102(e)–(g) of the H.R. 1937 would, likewise, not only impair some of the goals and objectives of NEPA but also might become unwieldy. This section apparently seeks to ensure that project proponents and the appropriate land-managing agency agree to a structured process for complying with NEPA. For those who have been involved in such projects, the idea of outlining how a process might unfold for particular activities has some merit. The difficulty, of course, is in how to achieve such a result without compromising NEPA and any other statutory processes and objectives. Take, for instance, the concept of determining up front the "scope of any" NEPA document—if that document is an EIS then such a process would conflict with the idea of "scoping" under NEPA, where the interested public is able to assist in exploring the range of issues that should be addressed. Similarly, while currently the agencies and project proponents do enter into agreements, such as for funding of an EIS, those agreements are more limited than what is contemplated by this section and this section could limit public participation in the process. Or, section 102(e)(1) would require an agreement on whether and what type of NEPA document to prepare, and yet the decision under NEPA is ultimately a Federal decision and it is not clear what happens if the project proponent and the Federal agency cannot agree even though section 102(e)(1) appears to require an

<sup>2</sup>Certain EPA actions under the Clean Air Act were an example, later codified. See *Am. Trucking Ass'n v. U.S. EPA*, 175 F.3d 1027, 1041 (D.C. Cir. 1999), *rev'd and aff'd in part by Whitman v. Am. Trucking Ass'n*, 531 U.S. 457 (2001); see also *Mun. of Anchorage v. United States*, 980 F.2d 1320, 1329 (9th Cir. 1992) (Clean Water Act); *W. Neb. Res. Council v. U.S. EPA*, 943 F.2d 867, 871 (8th Cir. 1991).

<sup>3</sup>Compare, *e.g.*, *Douglas Cnty v. Babbitt*, 48 F.3d 1495 (9th Cir. 1995), with *Catron Cnty. Bd. of Comm'rs, N.M. v. U.S. Fish and Wildlife Serv.*, 75 F.3d 1429 (10th Cir. 1996).

agreement (“shall enter into an agreement”). Also, section 102(e)(6) would require an agreement presumably covering consultations under laws other than NEPA, and yet is not clear how that would occur pursuant to the Endangered Species Act, the National Historic Preservation Act, or other laws.

*Finally*, several aspects of H.R. 1937 are potentially vague and could become problematic in implementation. To begin with, the definition of “strategic and critical minerals” is not established in the usual fashion for definition-type language and what is included may too easily change with little defining contours, depending upon broad determinations by an agency about whether a particular mineral is “necessary” for “national defense,” or “for the Nation’s energy infrastructure,” to “support” certain industries, or “for the Nation’s economic security and balance of trade.” And, it is unclear how an agency will make any such determination, whether for rare earths, solid and hard rock minerals, or even for sand and gravel, and then how any court would have the ability to review that decision because the language does not necessarily leave the court with any law to apply—thus leaving the decision potentially within the agency’s sole discretion.

A similar problem could surface with the agency’s determination under section 102(b)(2). It will be quite difficult, at the outset, for any agency to conclude that other processes are functionally equivalent with the six identified factors in section 102(b), because that would force the agency to examine and interpret the scope of other authorities, assess the breadth of those authorities, and conclude that they mirror the six factors—all within 90 days. And then the agency would need to document that conclusion in a written finding that, presently, it is not clear whether that determination would be a final agency decision immediately capable of judicial review (aside from whether the matter would be ripe), but nevertheless would likely be reviewable at some point. And how during this process the agency will examine “facts” in the record before any administrative record is established is unclear. The following are a few additional observations:

- It is not clear whether section 102(f) was intended to refer to section 102(d) or 102(e);
- Section 102(h) would appear to cap financial assurances unnecessarily by adopting a potentially unworkable third party standard that may lead to litigation;
- Section 104 on preparing Federal Register notices appears vague and it is not clear how it would work in practice, particularly because it would require that the notice originate in any office where any meeting has occurred, where—and it is not clear whether some or all—documents are housed, or the activity has been initiated, and the requirement to publish the notice within “30 days after its initial preparation” may similarly be unworkable and not provide sufficient time for intra and/or interagency review, and could simply delay having the agency prepare in writing any “initial preparation”;
- Section 203 on intervention as of right would unnecessarily trump well-defined principles under F.R.C.P. 24, a right that generally most project proponents are afforded currently under the rule;
- Section 205 limiting prospective relief unnecessarily intrudes into the role of the judiciary, under well-defined principles for awarding preliminary and injunctive relief, and could easily cause appellate courts difficulty when reviewing lower court decisions allegedly violating the proscription in section 205; and
- Section 206 limiting recovery of attorney fees is contrary to the notion that citizens ought to be rewarded when they prevail in lawsuits that, in particular, protect congressionally decided principles—whether in enforcing agency organic statutes, NEPA, or the APA.

Again, thank you for the opportunity to present my views on H.R. 1937 to the subcommittee. I welcome your comments and questions.

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Mr. COOK. Thank you very much. The Chair now recognizes Mr. Green.

**STATEMENT OF JEFFERY A. GREEN, PRESIDENT, J.A. GREEN & COMPANY, WASHINGTON, DC**

Mr. GREEN. Mr. Chairman, Ranking Member Lowenthal, distinguished members of the committee, thank you for inviting me to articulate my thoughts on the National Strategic and Critical Minerals Production Act of 2015, a much-needed bill that will help improve our Nation's strategic and critical materials policy. In the interest of time, I intend to offer brief oral remarks, and ask that my written testimony be incorporated into the record.

Having dedicated my career to national security issues, specifically supply chain security and defense industrial-based challenges, I firmly believe strategic and critical materials are essential to our national security. Over the past 5 years, the U.S. Government has adopted meaningful strategies to support the substitution and recycling of strategic materials, and undertook several successful trade actions. Unfortunately, far too little has been done to support production of these materials, which in my view creates unacceptable national security risk.

The bill under consideration today will help balance the need to support production with appropriate oversight and a streamlined regulatory regime. This balance, absolutely essential to ensure the political viability of the bill, ultimately will help improve our national security environment. Without a doubt, our Nation is increasingly reliant on imports for a growing number of materials that are critically important to the basic functionality of U.S. weapons systems, from armor plating to electro-optical targeting, from precision-guided munitions and stealth technology to ship drives.

To see the adverse impact of over-reliance, we need only to look at our Nation's recent experience. In my written testimony, I provide three real-world examples of the nexus between strategic materials and national security. Looking at germanium, tantalum, and rare earths—in many of these cases associated with these materials we have seen potentially unreliable foreign nations exert near-monopolistic power, using state-owned enterprises to enforce export embargoes and to manipulate prices.

In other cases, materials come from extremely violent regions with ongoing structural challenges and problematic due diligence schemes. Tantalum, designated a conflict mineral within U.S. law, is one such material.

In all of these cases, import over-reliance, coupled with a supply chain interruption, either accidental or deliberate, can create real national security risk. In light of this nexus between strategic materials and national security, it only makes sense that the United States should take common-sense steps, such as those in the bill under consideration. Streamlining the permitting process and reducing bureaucratic red tape is one simple step that can remove a self-inflicted wound when it comes to strategic materials. The economics to keep competing with the rest of the world are tough enough without self-imposed artificial barriers to entry.

That said, removing those barriers upstream, such as mine permitting, is just a first step. We also need to create an environment that promotes competitiveness at each value-added downstream step of the supply chain. From basic research to recycling, opportunities abound to support production of strategic and critical

materials throughout the supply chain. This bill offers a chance at increasing our competitiveness and mitigating this growing national security risk. That requires a bipartisan and bicameral commitment to an approach that recognizes that these issues have key implications for our national security.

Again, I thank the Chairman, Ranking Member Lowenthal, and members of this committee, for allowing me to offer my thoughts. I stand ready to answer any questions you may have.

[The prepared statement of Mr. Green follows:]

PREPARED STATEMENT OF JEFFERY A. GREEN ESQ., PRESIDENT,  
J.A. GREEN & COMPANY

Chairman Lamborn, Ranking Member Lowenthal, and distinguished members of the committee, thank you for inviting me to offer my thoughts on H.R. 1937, the National Strategic and Critical Minerals Production Act of 2015. I have spent the last two decades in the private sector and government—including on active duty in the U.S. Air Force, in the Air Force Reserve, and as a senior professional staff member on the House Armed Services Committee—focusing on national security issues. In that time, I’ve observed the nexus between our natural resource policy and national security.

Of particular concern to me is our import reliance on a growing number of strategic and critical materials. These materials often are produced in small quantities with opaque markets, and many are controlled by our Nation’s potential adversaries. These strategic and critical materials are vital and enabling components of many of our most technologically advanced weapon systems. In recognition of these risks, the U.S. Government adopted a strategy to promote mitigation measures such as thrifting, substitution, recycling, and the use of trade remedies. However, much remains to be done to establish an environment that supports production of these materials in an increasingly competitive global market.

Thus, I endorse the legislative intent underpinning the National Strategic and Critical Minerals Production Act of 2015. This bill represents an essential component in a strategic and critical materials policy that balances production and regulatory concerns.

#### THE LINK BETWEEN STRATEGIC MATERIALS AND NATIONAL SECURITY

As the committee considers the bill, I strongly recommend a focus on the implications of our increasing reliance on imports of strategic and critical materials. This import reliance creates a real national security risk.

Many of these materials, including the case studies that I will explore later in this testimony, play a critically important role in the basic functionality of essential U.S. weapons systems, as well as a critically important role in the defense industry. First, when processed, strategic and critical materials provide unique physical characteristics required by U.S. weapon systems. For example, tungsten is a very hard metal that has several commercial applications (e.g., cutting tools); for the same reason, tungsten also is valuable for armor-piercing munitions and armor plate—an application it has served since the Second World War. Other materials, such as beryllium, have relatively few commercial uses, but military demand in nuclear weapons and electro-optical targeting systems is significant. Second, in aggregate, the use of strategic and critical materials in U.S. weapons systems allows our Nation to equip, train, mobilize, and sustain modern military forces with cutting-edge capabilities. Finally, production of strategic and critical materials naturally creates high-paying jobs, spanning the value chain from research and development and exploration to primary extraction and end-of-life recycling. This economic activity boosts gross domestic product (GDP) and tax revenues to state and local governments.

Challenges associated with accessing reliable supplies of strategic and critical materials result in sometimes illogical and counterproductive business decisions. Because commercial supply chains generally do not tolerate high levels of risk, commercial companies often try to economize use of expensive or “high risk” materials in their product development efforts, rather than focus on maximizing the potential of a materials technology. In other circumstances, internal research and development dollars are diverted from product development toward material substitution. As a result, rather than focusing on utilization of the most advanced materials

available to support innovation, scarce research dollars are diverted to support substitution that can often be a technological step backward.

What truly concerns me is the impact that U.S. reliance of importing these materials can have on the defense supply chain. Foreign governments have deliberately disrupted supplies of strategic and critical materials in peacetime and wartime with remarkable effects, resulting in severe supply restrictions and prohibitive price increases.

For example, embargos are a well-known tool used to deprive a target country of strategic and critical materials by prohibiting the export or sale of such materials. Select instances involving the United States include the Soviet embargo of manganese and chromium during the Berlin Blockade (1949) and the Chinese embargo on rare earth minerals (2010). Preclusive purchasing also is a form of economic warfare whereby one country purchases resources for the purpose of reducing the ability of a target country to purchase the same resources. All other variables constant, this action increases demand, prices skyrocket, and supply shortages may result.

#### REAL-WORLD EXAMPLES OF NATIONAL SECURITY RISKS

We have learned about the national security risks of over-reliance on importing strategic and critical materials and supply chain interruptions through experience with numerous materials including germanium, tantalum, and rare earths. For example, *germanium* is a rare metal that occurs in very low concentrations in the Earth's crust. Because of this rarity, germanium is recovered as a byproduct of zinc or coal mining. Today, the largest mineral producers of germanium are in China, Canada, Russia, and, to a much lesser extent, the United States. However, companies ship much of this germanium mineral concentrate to Russia and China for processing into ingots and other high value-added products. The combination of limited availability of germanium concentrates and high prices for germanium has led to significant amounts of germanium recycling outside of China and Russia as one risk mitigation measure and business opportunity. Nevertheless, at this time these programs are unlikely to produce a sufficient amount of recycled material to meet our national security needs.

From a military perspective, the most relevant germanium-related products include fiber optics, infrared optics, and solar cells. Nearly every surface vessel and fixed- and rotary-wing aircraft in the U.S. arsenal has large, forward-looking infrared systems or search-and-track systems. Many aircraft also carry "heat-seeking" missiles, which contain germanium lenses. In addition, many small arms and light weapons sights include infrared optics, and U.S. military satellites use highly efficient germanium-based solar cells. These military applications formerly accounted for the vast majority of the U.S. market, but now infrared optics and solar products represent about half of U.S. demand.

The risks associated with the germanium market are two-fold. First, there is generally limited primary production of germanium, and to the extent that it occurs, much of that material is redirected to smelters in China and Russia. A great deal of the secondary materials market (i.e., scrap) meets a similar fate because: (1) it is cheaper to conduct these activities in China and Russia and (2) Chinese and Russian companies bid very aggressively for such material when it becomes available. Second, even though companies based in the United States and NATO countries have advantages in the high value-added manufacturing of germanium components, their competition in Russia and China consists of state-owned enterprises that simultaneously receive millions of dollars per year in price subsidies and other government grants to support downstream research and development. As these companies' product lines mature, it is likely that much of China's and Russia's current semi-finished germanium exports will be consumed domestically.

*Tantalum* is a very hard metal that is highly resistant to corrosion and deformation at high temperatures. Like many other metals, tantalum can be extracted by typical industrial methods, such as underground or open pit mining. However, because of tantalum's natural hardness, artisanal mines are very common. At some deposits, the gangue material around tantalum-bearing minerals has eroded over the past millennia, leaving a relatively high-grade concentrate at surface. Artisanal collection and beneficiation of the latter is typical of Central African and some South American tantalum mines.

In addition to the characteristics noted above, tantalum also is an excellent conductor of electricity, and nearly 75 percent of tantalum demand is focused on electronic materials and capacitors. As such, tantalum capacitors are one of the key building blocks of nearly every piece of high-tech equipment operated by U.S. armed forces. Separate from electronics, another important demand segment for tantalum

is the turbine engine market, particularly for single-crystal nickel superalloys. In third-generation nickel superalloys, tantalum content ranges from about 6 percent to 8 percent. Smaller military applications for tantalum include explosively formed projectiles in anti-tank missiles.

The principal risk associated with the tantalum supply chain lies at the furthest upstream portions of the supply chain, and under the Dodd-Frank Wall Street Reform and Consumer Protection Act (P.L. 111–203), tantalum is a conflict mineral. According to U.S. Geological Survey statistics, more than two-thirds of global tantalum production emanates from the “covered countries”, which include the Democratic Republic of Congo and those countries that border it. Though there are many public and private sector initiatives aimed at alleviating this problem, extreme violence in the region and ongoing structural problems within upstream due diligence schemes remain highly problematic and may result in some future supply disruption.

*Rare earth materials* consist of 17 elements (yttrium, scandium, and the lanthanide series). With regard to U.S. national defense, rare earth elements are a force multiplier. The aerospace industry uses yttrium for the investment casting of titanium parts, and yttrium-based ceramics act as thermal barrier coatings in jet engines. Yttrium, neodymium, and dysprosium are additives to magnesium alloys that compose the transmission and gearbox casings for fixed- and rotary-wing aircraft. When one of these aircraft elects to place a munition on a target, the fin actuators and seeker head of that munition likely will be powered by neodymium-iron-boron or samarium-cobalt magnets. If that munition is laser-guided, a target designator using a neodymium-doped yttrium-aluminum garnet may be used. If that munition uses radar guidance, then the microwave-sensing devices incorporated in that munition likely will be powered by samarium-cobalt magnets.

The primary concern associated with the rare earth supply chain is the near complete dominance of China at every stage of the value chain. The Chinese rare earth industry is in the midst of consolidation into six large, state-owned enterprises, which receive considerable direct and indirect government subsidies and benefits that, like germanium, are targeted at downstream, valued-added manufacturing. Moreover, prolonged inactivity within the U.S. industrial base already has led to a massive intellectual capital deficit; even now there is a very limited pool of experienced rare earth plant operators and engineers outside of China. Though the use of rare earths in defense applications is relatively minor in volume, their criticality to the functionality of many key weapons technologies is indisputable, and the dominance of Chinese supply remains virtually unchanged nearly 5 years after the 2010 embargo.

#### CONCLUSION

These examples—germanium, tantalum, and rare earths—illustrate a continuum of risk to the defense industrial base as a result of strategic and critical material supply chains. In the case of tantalum, the central risk is isolated at the mine site and the trade routes along which those materials flow into the global market. For germanium, upstream mining risk is showing signs of creeping into downstream, value-added manufacturing segments. In the rare earth sector though, we continue to witness the complete dominance by China of an enabling technology for many weapon systems.

To date, the U.S. Government has initiated a number of programs that address these risks focused on increased due diligence, trade enforcement, research and development grants for substitution and recycling, optimized material use, and a dogged belief that the free market will diversify the supply chain. As the rare earth market shows, the global market for strategic and critical materials is highly competitive, with often insurmountable barriers to entry. Therefore, a myopic and unshakeable belief in market solutions ignores global reality and national security risk. What has been lacking in our approach to these challenges is any encouragement of production of strategic and critical materials in the United States.

The legislation introduced by Congressman Amodei provides common-sense steps that will allow the United States to streamline the permitting process and reduce bureaucratic red tape. The economics of competing with the rest of the world in strategic and critical materials is difficult enough without self-imposing barriers to entry. Removing those barriers at points that are upstream in the value chain is an excellent first step.

It is, however, just a first step. I encourage the members of this committee to evaluate the definition of strategic and critical materials, beginning the necessary work that we, as a country, need to undertake to create a framework for focusing

national-level activities and promoting true competitiveness at each value-added downstream segment of the supply chain. Only then will our Nation have the opportunity to increase our competitiveness and mitigate our growing national security risks associated with import over-reliance.

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Mr. COOK. Thank you very much. The Ranking Member, Mr. Lowenthal, has been magnanimous enough—you like that word? You gave it to me. I can't spell it, but I can pronounce it, I think—to allow Mr. Labrador—he has to run—for some questions.

You are recognized.

Mr. LABRADOR. Thank you, Mr. Chairman. Thank you, Mr. Lowenthal.

Mr. Russell, again, thanks for being here today. Can you please explain how Hecla's longstanding experience in northern Idaho and with the other mines might be helpful in permitting the Rock Creek mine in Montana?

Mr. RUSSELL. Mr. Chairman, Congressman, Hecla—I think there are two opportunities there. First, our Lucky Friday mine in north Idaho is a 70-year-old mine. And what that has done has made Hecla an integral part of the community of Mullan and Wallace. And we would bring that sort of perspective to Rock Creek, which has the potential to be a 30- or 40-year project.

More importantly I think, is our Greens Creek project, located in southeast Alaska. Greens Creek is located in Admiralty Island. It is partially located within a national monument, adjacent to a wilderness, on national forest and private lands. The mine has been operating for 27 years. Admiralty Island is home to more brown bears than anywhere else in the Lower 48, and the mine and the bears—same species as the grizzlies in western Montana—have operated successfully together for 27 years. The island is also home to five species of Pacific salmon, and the mine has operated without significant impact to the fish. So the issues that we have dealt with in Alaska on bears and fish and sensitive environments are the same issues that we would deal with in Montana, and we would bring those lessons learned and those experiences to successfully operate the Rock Creek project.

Mr. LABRADOR. Excellent, thank you. Do the other countries that you have worked in to permit mines, do they have high environmental standards?

Mr. RUSSELL. Mr. Chairman, Representative Labrador, most of the countries that I have worked in do, in fact, have very similar environmental requirements to the United States. As an environmental professional, I feel good about that. So the standards that we have had to meet internationally—Australia, Chili, New Zealand, Argentina—are essentially the same.

What I have seen in those countries is that their permitting process distinguishes the environmental compliance. What you do on the ground—complying with air, water, solid waste requirements—those are almost the same as the United States. Their permitting process is much more predictable. You can get through that process in a 2- to 3-year period. The agencies, the public process, all goes through that process in a much, much shorter time. So those countries are more effects-driven—what is the effect of this? The United



States tends to be more on a process, and we get bogged down on the process rather than really what the true effects are.

Mr. LABRADOR. So their high standards are not delaying the permits.

Mr. RUSSELL. They are not, no.

Mr. LABRADOR. I lived in Chili for 2 years, and I actually happened to live in the city of Rancagua for 5 months, which is where the biggest copper mine in the world seems to be. I don't know if it still is the biggest copper mine in the world. Tell me a little bit about Chili. My experience with the Chilean government is that they worked pretty swiftly through these permits, and I understand that they continue to do that. Is that correct?

Mr. RUSSELL. Yes, Mr. Chairman, Representative, yes. My experience in Chili—the local region in Chili, which would be like the state or province here, is the primary permitting agency or authority. Then there is also the national, which is somewhat similar to Canada. The national will accept or review, or not accept, the provincial permitting process and review, but they are involved. Typically, that local province or region takes the lead. Yet that process is done very predictably, and it is in a very strong relationship between the applicant and the government, and then the public being a part of that process, so—

Mr. LABRADOR. The Chileans don't really care about their cities and their environment, right, because they don't have any kind of tourism, they don't believe in environmental tourism, isn't that what we seem to hear all the time, that we need to make things longer, because we actually care about the environment? It seems to me the people of Chili rely on tourism, especially environmental tourism, quite a bit. Isn't that true?

Mr. RUSSELL. That is absolutely true, and we should not confuse the length of the process to the rigor of the analysis. I think Chili is an example where it is a rigorous process, it is just done in a more timely fashion.

Mr. LABRADOR. In your testimony you mentioned that the fear of litigation can lead to agency staff addressing every issue as if it were potentially significant, instead of focusing on the truly significant issues. Has agency staff specifically mentioned that fear of litigation to you, and does this fear of litigation lead them to do better analysis of the issues?

Mr. RUSSELL. Mr. Chairman, Representative, yes. In my experience, I have heard repeatedly that we have to make these documents legally bulletproof.

So, under NEPA, there is a requirement that the agencies look at issues that have a potential significant impact on the environment, and that those get analyzed. I think, in other countries, that is what they do. Here in the United States, because of the fear of any possible stumble in the legal procedure, the agencies then say, "We have to look at these issues in more depth, and more depth, in an effort to try to build our case, so that when it does go to court, we can defend it." And that is a major cause to permitting delays.

Mr. LABRADOR. Thank you very much; I yield back my time.

Mr. COOK. Thank you, Mr. Labrador.

Mr. Lowenthal.

Dr. LOWENTHAL. Thank you, Mr. Chair. And I enjoy calling you Mr. Chair.

Mr. Kalen, the Hard Rock Mining Reform and Reclamation Act that Ranking Member Grijalva and I introduced earlier this year would make a number of reforms to the Mining Law of 1872, including putting a royalty on hard rock production from public lands, permanently ending the system that gives away public lands for less than \$5 an acre, establishing strong reclamation and bonding requirements, giving clear authority to Federal land managers to reject a proposed mine if the negative impact of that mine would be too severe, and more.

Do you think that these reforms would be a positive step in the right direction?

Mr. KALEN. Mr. Chairman, Representative, yes, I do. If we—

Dr. LOWENTHAL. Is your microphone on? Bring it closer to yourself, Mr. Kalen.

Mr. KALEN. Mr. Chairman, Mr. Representative, sorry. Is this better?

Dr. LOWENTHAL. Yes, much better.

Mr. KALEN. Sorry. Yes, I do. I think that, at least since the early part of the 1900s, we have engaged in re-looking at how we deal with our public lands and the management of our public lands. So beginning in the last century, we started to look at things like leasing, and identifying lands right up front for what kind of valuable resources—whether it is recreation, whether it is oil and gas, whether it is coal, or whether it might be some other kind of potash.

So what we have done historically is, in other programs, engaged in looking at bidding for those, and then engaged in leasing with royalties. So the hardrock mining program is anachronistic. It doesn't really fit with any of the modern programs. So I think that, without a doubt, it is in need of reform.

Dr. LOWENTHAL. Thank you. I want to talk now about the definition of critical minerals. First I want to go back to something that Chairman Lamborn mentioned in his opening statement. He mentioned an answer from last year's witness in a hearing that we had last July, and a question that I had asked Mr. Eric Peterson from the Center for Advanced Energy Studies at the Idaho National Laboratory. In his opening statement, he implied that the witness said that lead is a critical mineral.

We asked Mr. Peterson to clarify that response. His written response back made it very clear—he said, “Due to its rather large supply with multiple sources, I do not see lead as being a critical element.” And, remember in my opening statement, what I said was that the definition that we use for critical minerals, what is critical, is based upon the National Research Council, the U.S. Geologic Survey, the Department of Energy, all have definitions, and they all say they have to have three conditions: they have to be essential, there have to be poor substitutes to be considered critical, and there has to be a risk to supply chain disruptions, in terms of procuring these minerals. And it has to meet all three.

In the legislation that we have before us, it changes that to the minerals that are necessary for national defense, for energy infrastructure, to support domestic manufacturing, agriculture, housing,

telecommunications, health care, and transportation infrastructure. That is the definition now.

I ask the members of the panel, is there any mineral that doesn't—given this new definition, that is not a critical mineral? And, can you tell me what mineral does not meet these—that we are giving this expedited process to, because they are critical? It seems to me that every single mineral out there now meets the definition. Can you tell me what doesn't? What would not meet—I am just asking you. What would not meet the definition of a critical mineral in this legislation?

Mr. FELLOWS. OK. So, as a mineral economist, I spend an awful lot of my time looking at that balance between supply and demand for a whole range of commodities. And you are absolutely correct in that, in many instances, supply or potential supply is currently sufficient to meet demand. But what I would point out is that criticality, or the degree of criticality, changes over time. Right now, for some minerals, the degree of criticality is very low. For some minerals it is indisputably very high. That—

Dr. LOWENTHAL. Again, I am running out of time, and I just want to ask you. Name the minerals that do not meet this definition of critical mineral. Now, given the new definition that is being proposed of what is a critical element that we are going to give this expedited—what doesn't meet the definition?

Mr. FELLOWS. From the point of view of abundant supply, you are quite correct that something like sand and gravel is abundant. So, from that point of view, criticality would be—

Dr. LOWENTHAL. Thank you, Mr. Chair. I will submit my questions.

Mr. COOK. Thank you very much.

Mr. Zinke.

Mr. ZINKE. Thank you, Mr. Chair. As the lone Congressman from Montana, I also am a former geologist. First of all, I commend you for your investment in Montana. I have some experience, because I grew up in Montana, which is not very far. And I can tell you, in Sanders County and Lincoln County, it is dire. The unemployment rate is far above the national average, somewhere around 7.5 percent. Montana used to be known as the Treasure State, and now most people refer to it as the Big Sky State. It is hard to feed a family on sky.

I commend you for this process, the process in my mind when—during your testimony, you were talking about timelines. Well, I graduated high school in 1980, when the process first began. And your reference to 2001 was when 9/11 occurred. I spent 23 years as a Navy SEAL, and I remember 9/11. Yet we have been going through a process, and as a country, we have become process-orientated and not results-driven. When a process is years and years and years without end, as a business model, how can one invest in our future? Because it has become so uncertain that it will ever have a path to get there.

Many of you—I would say there is no one in this room that has been to the Yaak, perhaps, other than you. The Yaak was the last place in this country to receive power. And the Yaak is a distant place in Montana. Matter of fact, there is a TV show that looks at isolated places in America, and the Yaak is one of them. Yet there

isn't a job to be found in the sea of forest because our forest policy has not allowed trees to be cut, and a vast array of natural resources in a place where jobs are desperately needed, and the process has been shown over and over to be reasonable, environmentally prudent, and yet you cannot pull a permit.

So, how long, Mr. Russell, without this bill, do you see an estimate of when a permit would be given?

Mr. RUSSELL. Mr. Chairman, Representative Zinke, appreciate your question. The long permitting timeline for the Rock Creek project is especially frustrating, when just 15 miles away is the Troy mine that has been there for 30 years, has had no significant impact on the environment, and is adjacent to the proposed Scotchman's Peak new wilderness area. Obviously, mining, environmental values, recreation, and wilderness values can co-exist.

The Rock Creek project has been 5 years since the supplemental EIS was started. The Forest Service will not give us an updated timeline for when that project would see a draft. Hecla has come into that project with a long-term view. We are a 124-year-old company. We know it is going to take time. We are not happy that it is going to take time, but we know that it will. We have an approach of patience and persistence to push that project forward. I think if we could get it done in 10 or 15 years under the current system, we would be fortunate, to answer your question specifically.

Mr. ZINKE. So 10 to 12 years is where you think we would be? I am looking at—let's see, that would make a process of 40 years, from 1980 to when we expected completion on this?

I support this bill because I think we have lost our mind as a country, when the amount of litigation, and frivolous litigation, and stacks of it have become where we can't be prosperous any more. And I commend you for your level of investment, and we will do whatever we can, from the delegation of Montana. I speak with one voice from Montana.

[Laughter.]

Mr. ZINKE. But thank you, Mr. Chairman.

Mr. COOK. Thank you very much. The rules of the committee are such that the next senior Member speaks—even though Mr. Hardy came in earlier, and if you want to be magnanimous and yield time, I will leave that up to you. I am going to play Pontius Pilate and recognize Mr. Hice.

Dr. HICE. Thank you, Mr. Chairman. I appreciate this hearing, as well. And each of the panelists, thank you for being here.

Mr. Green, let me ask you just a couple of real quick questions. What do you see are the potential risks to our national security, if we lose the strategic and critical materials?

Mr. GREEN. Mr. Hice, thank you for the question. I think it is best answered in two parts, both a near-term risk and a long-term risk. And I think, as a nation, we need to be very conscious of that.

In the near term, if we look at the rare earth example back in 2010, we saw what that means: a supply disruption via the actions of a near-peer adversary, disruption in the supply chain, quick reactions in the market. But, ultimately, that settled out. So there are folks, for example in the Department of Defense, who don't feel that that was a crisis because supply chains and delivery in my

world of weapons systems were never affected. But the potential was there. So some in the Administration will say, "So there is really no issue here."

But I think we have to be more conscious in thinking about the longer term. What I mean by that is that if you lose access to things at the furthest upstream point in the process—so, at the mine as this committee looks at it—we tend to see, in markets such as rares, the collocation of the downstream products closer to the source of supply.

So, in rare earths, you have seen migration of metal producers to the oxide markets in China, so they can gain access to that material. Then you have seen the downstream alloy producers chase the metal. Eventually, the magnet producers chase the alloy. And that creates a real risk, where the next steps—which are viable, and we are seeing them now—are eventually assemblies, components, and ultimately, end items.

I think that is a horrible long-term prospect for our manufacturing base, and that goes right back to the intent of this bill, which is making sure we have access to that first step in the supply chain.

Dr. HICE. Well, I thank you for that. I take it you are familiar with the RAND Report that came out a couple of years ago.

One of the alarming things in that report was China, as you just mentioned, and how their market share of global production of critical materials has grown dramatically over the past couple of decades, from a strong position to an overwhelming position of dominance.

Do you think that position of China, of dominance, poses a risk to the United States, be it national security or economic security?

Mr. GREEN. Mr. Hice, absolutely. I would liken this to a disconnect between our policy as a Nation, as it relates to strategic materials, and the ability of the market to react to take advantage of opportunity.

So, again, using the rare earth example, there was a time and a period where prices skyrocketed. You saw 300 to 400 companies try to enter this space in a very small window. Only one company in the United States was able to capitalize on that opportunity in the market, and that was a previously permitted mine.

We have since seen a decrease in the price of those materials, and that economic window has closed in a 2- to 3-year period. So we really never had a chance to try to challenge China's dominance.

Dr. HICE. OK, Mr. Chairman, I would like unanimous consent to enter the RAND study into the record.

[No response.]

Mr. COOK. Without objection, so ordered.

Dr. HICE. Thank you, sir.

Mr. Russell, let me go to you real quickly. You have been involved in permitting for a long time, 30 years or so. How many different types of permits are required for a typical mining project?

Mr. RUSSELL. Mr. Chairman, Representative, a typical mine will have 40 or more permits. Our Greens Creek mine has 85 different permits, approvals, authorizations that we have to comply with.

Dr. HICE. All right. Forty permits is a lot of hoops to jump through. I am assuming that that process has changed over the years since you have been involved.

Mr. RUSSELL. Yes, certainly it has. If you kind of go back to when I started this, in the first early days of NEPA, the guidance from CEQ would be an environmental assessment that would take 6 months and be about a 15-page document. An environmental impact statement would be 18 months and about 150 pages. The—

Dr. HICE. Let me stop you, if I can, right there. I get the picture. A lot of changes have taken place. But, besides the permitting, there are some other issues facing the delays and all the problems. What are some of the other issues facing the industry?

Mr. RUSSELL. Mr. Chairman, certainly key to development of mining in the United States is access to the ground. Mineral withdrawals on the sage grouse, over 10 million acres are being proposed to be withdrawn from mineral entry. Three million acres in my state of Idaho—and the state of Idaho has 10,000 acres that have been affected by mining—yet 3 million acres are proposed to be withdrawn. Yet fire is the main culprit of risk to habitat for sage grouse.

The second would be the ever-moving goal post of regulatory requirements. The rules are always changing, and it is difficult to hit a moving target.

Dr. HICE. Thank you, Mr. Chairman.

Mr. COOK. Mr. Hardy.

Mr. HARDY. Thank you, Mr. Chairman. Mr. Fellows, Mr. Russell, I have a mine in my district—a number of mines, actually—but I have a mine called Round Mountain. Are any of you aware of that place? Round Mountain has been working on a permit that is still within the envelope that it was permitted almost 80 years ago. It is not going outside its boundaries, it is just trying to expand the hole that it is working on. They have been working for over 2 years to obtain a permit. This is due to start the closure process of this mine in 2018. Without the expansion of this, that is close to 2,900 jobs it would cost our state, some of the highest-paying jobs anywhere.

Can anybody give me an idea why it would take so long to do an environmental assessment within the same area that has already been assessed for over 80 years, and why it has taken the process—anybody care to tell me why that takes so long?

Mr. FELLOWS. I genuinely struggle to see, from a purely technical point of view, how it could take that long. There has to be something procedural going on there.

Mr. HARDY. Engineering has been done, everything has been done, the study has been done, been submitted. And it is still within the same envelope. But because of the environmental process, we continue to have to fight issues like these studies.

Mr. Russell, we talk about the fact that America's significant mineral resources currently attract 7 percent of the worldwide exploration dollars, as compared to 20 percent back in the 1990s. Given our wealth of materials and minerals, would it be likely that we might change that back to that 20 percent, which would change the trade deficit we have in this country today if those were

accessible, were expedient in the process of doing that, and would that attract more of that exploration?

Mr. RUSSELL. Mr. Chairman, Representative, the short answer is yes. If there was a more reliable and predictable process that would encourage and instill confidence to the business decisions to come to the United States and to be able to say, "Through this—we know that we can get through a rigorous process, but once we have that, that the rule of law will hold in the United States, and that we can rely on our access and our rights of tenure," I believe that the answer is yes.

But because it takes so long, there are other countries where projects can go to be done and develop quicker, and the return on investment is much, much quicker. I think the answer is yes, if we can get through this issue of long, long times to develop a permit or mine.

Mr. HARDY. Mr. Fellows, do you believe that there is access to, or are there minerals out there that are of high-grade quality that could be gone after if the process was a little quicker, that would solve some of the issues?

Mr. FELLOWS. Absolutely. One of the key findings from our study is that right now the United States receives around 7 percent of global exploration expenditure, which was actually a surprisingly high figure to me, given how difficult it is to actually advance projects through the development pipeline here.

What that tells you, I believe, is that geologists, mining companies, explorers, still regard this country as being highly prospective for a whole range of minerals. So, the issue really is not the geological availability of these things here in the United States, it is really a case of getting them developed.

Mr. HARDY. Thank you.

Mr. Green, in your comments earlier we talked about the Federal Government. Is it not its responsibility to make sure of the safety and security of its citizens within its borders and outside its borders? Isn't it also maybe responsible for the economic security of individuals?

Mr. GREEN. I am sorry, I couldn't agree more, and I think there is a close nexus between that. Having studied the industrial base and supply chain for many years, a bill such as this, creating a positive economic—that environment just has a flowdown effect through the supply chain. And I have worked with many industries who say, "It is the business climate in the United States, it is either the inability to get a permit, the inability to find downstream customers that are preventing us from doing the production here, so we are simply going to have to look to other places."

So I think the two, economic and national security, are inextricably linked.

Mr. HARDY. Thank you. I would just like to make a little statement, real quick. I would like to concur with my colleague there, Ranking Member Lowenthal, that these are all precious metals. Gravels, which I work with—there has to be a certain density in order for a quality gravel to work on a highway or in concrete. Wyoming itself has one of the hardest materials, PR&R use it on their tracks all the way across their system. They haul it for many miles because it is one of the most hard or dense products, in order

to keep the safety of our citizens through that process. So, thank you.

Mr. COOK. Thank you. The Ranking Member has a short statement.

Dr. LOWENTHAL. I just want to say that I found this discussion fascinating, about some of the issues around mining in the United States, but this is not germane to the topic of this bill. This bill was about minerals that are critical and strategic to the United States, and how they would get an expedited process. What this bill does is eviscerate that definition, and says that all minerals now meet that definition, which I think is really not appropriate. We are talking about those that really are at risk, that put our supply chain at risk.

And with that, I again reiterate my opposition to H.R. 1937.

Mr. COOK. Thank you very much. Before I wrap it up, I am a co-sponsor to this bill. Obviously, I have a different viewpoint. I am not going to go into my questions, or anything like that.

Right now I want to thank the panel. Obviously, I was trying to move things along. They have called votes. I appreciate your professionalism and your patience in being here with us. It was a great, great hearing, at least from my standpoint.

This meeting is now adjourned.

[Whereupon, at 12:16 p.m., the subcommittee was adjourned.]

[ADDITIONAL MATERIALS SUBMITTED FOR THE RECORD]

[LIST OF DOCUMENTS SUBMITTED FOR THE RECORD RETAINED IN THE COMMITTEE'S OFFICIAL FILES]

- A Study by the Rand Corporation, "Critical Minerals: Present Danger to U.S. Manufacturing"
- A Study by SNL Metals & Mining prepared for The National Mining Association, "Permitting, Economic Value and Mining in the United States"
- Statement in opposition to H.R. 1937 from various environmental groups
- Statement in support of H.R. 1937 from the Interstate Mining Compact Commission (IMCC)
- Statement in opposition to the Bill in its current form from the Honorable Joseph Holley of the Battle Mountain Band of the Te-Moak Tribe of Western Shoshone Indians

